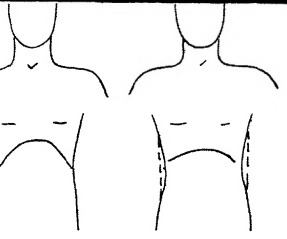
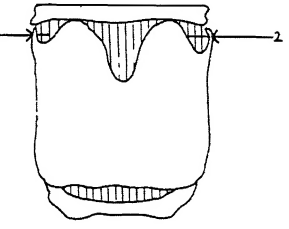
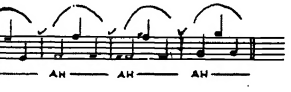
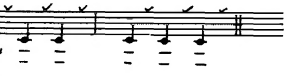
The Anatomy of Voice

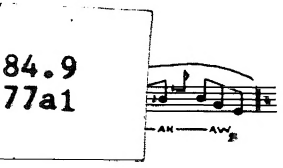


An Illustrated Manual of Vocal Training









Regnier Winsel

The Anatomy of Voice

An Illustrated Manual of Vocal Training

by

REGNIER WINSEL

"REGNIER WINSEL'S book, *The Anatomy of Voice*, is a most illuminating, serious and profound approach to the art of voice culture . . . his book should prove to be of the greatest possible value to students, singers and teachers."

This tribute in the Foreword by Estelle Liebling, former Metropolitan opera star and later the coach of Amelita Galli-Curci, John Charles Thomas, Maria Jeritza, Lily Pons and other great singers, is but one of many that have greeted the unique method of voice training practiced by the author.

Mr. Winsel, a celebrated coach and teacher, after years of study and research in libraries and ancient archives and with prominent teachers and medical authorities, developed a totally fresh system of getting the ultimate in good results from the human throat. His method, soundly based on physical, psychological and acoustical laws, uses special exercises to balance and strengthen the vocal mechanism and then coordinates the action with proper mental impulses. It is this system, which he has used in rebuilding many worn-out voices as well as in training new singers for successful careers, that he sets forth in this book.

The Anatomy of Voice

The Anatomy of Voice

An Illustrated Manual

of Vocal Training

BY

REGNIER WINSEL

HUDSON HOUSE Inc.
51 DOWNING STREET
NEW YORK, N.Y.
10014

Printing History
EXPOSITION PRESS INC. 386 Park Avenue South, New York 10016

FIRST EDITION

EP 44016

Robtal edition published
1972

2nd printing 1973
3rd printing 1974

Hudson House Edition 1975
2nd printing 1978

To the memory of

MY MOTHER

and

to my good friend

ROBERT W. TALBERT

whose faith and perseverance
made this work possible

Foreword

Regnier Winsel's book on singing, *The Anatomy of Voice,* is a most illuminating, serious and profound approach to the art of voice culture.

He has gone into his subject in a very analytical and scientific way—and I think his book should prove to be of the greatest possible value to students, teachers and singers.

I hope it will achieve the success it so richly deserves.

ESTELLE LIEBLING

[Estelle Liebling is one of the most celebrated of vocal teachers and coaches. Her own career over many years has been of continuous triumph and prestige.

She began as a coloratura, a pupil of M. Marchesi, under the regime of Gulio Gatti-Cazazza at the Metropolitan Opera House. Later she left that famous institution to tour the world as soloist with the famous band of John Philip Sousa. Since opening her studio in New York many years ago, she has coached many Metropolitan Opera stars. A few of the great singers she coached and advised include John Charles Thomas, Maria Jeritza, Amelita Galli-Curci, Lily Pons, and

Contents

	Prelude	11
1	The Dawn of Song	13
2	Early Teaching	19
3	The Student Listens	22
4	Breath and Song	26
5	The Registers	36
6	The Chest Register	39
7	The Falsetto or Upper Register	51
8	Legato Singing	57
9	When the Voice Fails	60
10	Voices of the Past	63
11	The Spoken Voice	67
	Exercises	72
12	The Better Voice	74
13	Basic Developing Exercises for the Female Voice	78
14	Basic Developing Exercises for the Male Voice	85
	Coda	93
	Appendix	95
	Exercises to Release the Inside of the Mouth	95
	The Vocal Attack	96
	Vowels	96

Prelude

I have had some twenty teachers in thirty years or so, and if an unsteady frame of mind is thus betrayed, I can say that my tenure with each has been brief—two or three months with some, a year or more with others. You see, I have been trying to study the teachers as well as the art and anatomy of singing.

I have enjoyed the drudgery—and you may call it that—of much specialized research in the archives of European libraries . . . in Italy, France, Germany and elsewhere. Dr. Douglas Stanley, Dr. Robert Mills and others have contributed something to my general knowledge of vocal anatomy and procedure. My very deep interest in the frailties of the human voice may have been engendered in a career of singing abroad, which I did not enjoy, and in the course of which I lost my voice twice. I have always loved to teach and wanted to be a voice teacher.

Therefore, restoring a voice damaged by improper singing, and establishing a natural method of producing a vocal tone, became matters of primary interest. I have tried to combine the best ideas of these many teachers, and to found these ideas upon basic facts of anatomy. Psychology plays a part, too, in revealing potentials of the individual voice, overcoming mental blocks in vocal production, and leading the student to believe sincerely that, given a reasonable "ear and response to musical sound," he can sing. Few of us really are so deaf that we cannot sing.

REGNIER WINSEL

CHAPTER 1

The Dawn of Song

Singing is the oldest expression of natural music. Since man walked upright in the primeval forests, song has ever been on his lips. The urge to sing, like the urge to live, has been inexorable and instinctive.

So through the mists of history the human voice becomes a counterpart of civilization itself. Compelling oratory and the songs and hymns of worship and victory have borne the tide of human progress. Even today, among the neolithic savages in far places, chant and song bind primitive communities together with a common denominator of prayer, mourning, laughter and exultation.

Let us turn back among the centuries, along the path of singing and human speech. The Chinese achieved a theory of music, of intonation and song, instrumental and vocal, thousands of years before the Christian era. The ancient temples that remain, even in crumbling ruins, yield evidences of melody. Scholars have been able to translate these symbolic notations, which indicate a scale of five whole tones, but without the semitone, which was apparently unknown. Musical rules, or some degree of ordered sound, became known about 3460 B.C., but who first made these rules and why, we don't know today. The half tone, which led eventually to our chromatic scale, did not emerge for a thousand or so years (*ca.* 1500 B.C.). This regular scale of five whole tones still predominates in Chinese music, and the Chinese instruments are still based upon these hoary theories and laws.

It must be remembered, in the tale of Chinese music, that under the benign elegance of Confucius, speech

became a series of musical intonations—that an ability to devise and intone verses, to speak with subtle inflection and musical nuance, became a requisite of education and aristocracy, and denoted also one's aptitude for appointment to official position.

The conquering Emperor Ch'in Shih Huang Ti (280–210 B.C.), called "the Unifier," the first absolute ruler of a united China, from whose name the word *China* may derive, deplored the debilitating effect of this effete influence. One of his ministers thought he saw a remedy and persuaded Emperor Shih to the famous "burning of the books" (213 B.C.). So the Emperor, to combat the Confucian doctrine of manners, letters and music that threatened to pervade the whole of official life, to the detriment of sound administration, ordered all books, music and musical instruments destroyed. Fortunately the Imperial libraries were intact, though piles of precious literature were burned, poets were banished, musicians exiled, musical instruments smashed or tossed into the fires.

For nearly two hundred years thereafter, there was no music in China, for it was forbidden to sing; all musical instruments were confiscated and burned; and possession of such instruments became a crime against the state. In the meantime, the Emperor, being quite mortal despite his assumption of celestial deity, died in the due course of mortal years; the dynasty changed; later rulers eventually restored music to the people. But by that time, only the singsong of Chinese speech remained, with some vague memories of the original five-tone scale. For a time, a seven-tone scale crept into the music of the North, though the five-tone scale was still supreme in the South.

Singing in ancient India, largely an improvised art, among mendicants who sang for anyone rich enough to pay them, followed the same scale patterns as the Chinese. Of course, the classic hymns of the Rig-Vedas were traditional, only the music itself being improvised by the per-

formers in accordance with prevailing scales and tonalities.

Many of these classic songs of love and victory supposedly had supernatural powers. The mantras of Tibet, for instance, were chanted in monotone, in the belief that they would rise to the higher spirit. There is a tale in the Rig-Veda that ten thousand shepherd girls, each of whom invented a new and different scale, sang of love for the handsome young god Krishna, himself a shepherd.

Plato, returning from Egypt, claimed to have seen records of songs which had then existed for ten thousand years. These songs, he wrote, had the virtue of magic, and therefore were gifts of the gods to men. There seem to be no records of early Egyptian music extant today, and no signs of musical notation appear on walls, pillars and other existing monuments. Yet a variety of musical instruments are shown, and choirs and even groups of instruments, suggesting the existence of what we might call today orchestras.

Pictures of male and female singers abound. Wealthy families had their own singers; the Pharaohs maintained private choruses and ensembles. These vocalists were called Singers of the Master of the World. To this day the ancient instruments are used, but the songs of the *fellahs* are merely chants and recitations encouraging one another to work.

The Jews were probably more advanced in music and singing than any other people of the ancient world except the Greeks. We know from the Bible and other sources that Saul, David and many of the prophets sang, doubtless in tones nasal and guttural, and much of their music has come down to us in original forms.

The late Lazare Saminsky, conductor, composer and scholar, and authority on the age-old music of the Jews, writes in *Music of the Bible and the Ghetto:*

> The pages of Jewish history are as full of distant glow as a voyage to far uncharted lands, as a travel-tale of Marco Polo. Here is the story of an ancient Hebrew chant that

> emerges centuries after its birth, in Milan, as the great Catholic hymn, *Te Deum Laudamus,* of the fourth century; here the tale of an old-country air from or of Bretagna finding its way into folklore of the Russian-Jewish sectarians; a great Beethoven quartet using the famous Jewish *Kol Nidre;* the adventures of a mellow synagogue song that has lured Meyerbeer and Borodin into writing glorious pages of opera. . . .
>
> Is it not inspiring to discover the resplendent verse *Eine reste Burg* sung in equal ecstasy by Martin Luther and by a downtrodden slave in ancient Yemen?

Marian Bauer and Ethel Peyser, in *Music Through the Ages,* remark that "the music of the ancient Hebrews springs not primarily as an art, but from the soul of a people whose everyday life, nomadic or sedentary, was religiously ordered."

But Greece really held the palm of music in the ancient world, with a somewhat complicated system which endured until the Middle Ages, and upon which most of our modern harmonic procedure rests. Basic melody and song supported this system, instruments intoning the proper key and tonality. For the Greeks knew and felt the subtle differences in tonic modes. For instance, sadness, even grief, was expressed in the Lydian mode, reverence for the gods in the Doric, courage and the furore of battle in the Phrygian, love in the Aeolian.

Greek music was predominantly homophonic, based upon a single line of melody. Choral lyric poetry, first developed in the Dorian communities, reached a pinnacle in the fifth century, with Simonides, Pindar and the Attic tragedians.

One hymn to the dying Adonis symbolized the passing of summer. We learn from Apollonius of Rhodes, Greek poet of the third century B.C., and from Virgil and Ovid, that "the very earliest musicians were the gods. Athena was not distinguished in that line; but she invented the flute,

although she never played upon it. Hermes made the lyre, and gave it to Apollo, who drew from it sounds so melodious that when he played in Olympus the gods forgot all else. Hermes also made the shepherd-pipe of reeds which can sing as sweetly as the nightingale in Spring. The muses had no instrument peculiar to them, but their voices were lovely beyond compare."

Now we come to Orpheus, son of a muse and a Thracian prince, whose name today is synonymous with music and melody. "His mother gave him music and Thrace fostered it, for the Thracians were the most musical of Greek peoples."

> In the deep still woods upon the Thracian mountains,
> Orpheus with his singing lyre led the trees,
> Led the wild beasts of the wilderness.

We are told in mythology that "everything inanimate followed him. He moved the rocks on the hillside and turned the courses of rivers."

Orpheus sailed with Jason in the *Argo* in quest of the Golden Fleece, and when the oarsmen wearied, he would arouse them to fresh zeal with his lyre. If a quarrel threatened, he would play so tenderly that the fiercest spirits would subside and forget their anger. Supposedly he saved the heroes from the sirens, for he "snatched up his lyre and played a tune so clear and ringing that it drowned the sound of these lovely fatal voices." Of course, the journey into Hades to bring back his beloved Eurydice, and the unutterable charm of his singing in that forbidding purlieu, are well known in Greek mythology.

And we learn of Arion, Greek singer and poet who lived about 700 B.C. and who escaped death at sea. He had sailed from Corinth in Sicily to take part in a musical contest, won the prize and set out for home in the same ship. Sailors coveted the prize and planned to kill him. Apollo came in a dream to warn him of his danger, and to tell him now to

save himself. When the sailors threatened his life, he begged as a last favor that he be allowed to play and sing before he died. The song ended, he jumped into the sea; where dolphins, drawn by the spell of his enchanting music, waited to bear him off to land and safety.

The Greeks, though ignorant of the anatomy of voice, did appreciate the feats of techniques. Moschus, for example, would turn his tongue upside down in holding a high tone, earning wide acclaim from the populace. Even in those days, vocal acrobatics and weird changes in melody became popular. Papyri bearing two hymns, found by archeologists in recent years, show an extreme range of voice, indicating either an advanced culture of the voice or that singers of unusual gifts could interpret these songs.

Music of the early churches was almost entirely Hebrew, but so many of these churches were Greek—in Corinth, Ephesus, Gallatea and elsewhere—that Greek and Hebrew music converge into a single stream, and were thus accepted in the Roman Church. Music in the church of Alexandria was sung in uniform pitch, rather chanted than sung.

Schools to train singers for the Church were established first in the fourth century A.D. Pope Gregory in the seventh century introduced the choir and composed a number of choral chants for the services. The Emperor Charlemagne was so impressed that he set up music schools in Germany. But not until the ninth century did the Monk Huckbald begin to use letters instead of signs in notation to designate notes. For nearly a hundred years thereafter, singing was in unison, one melody of the single voice, instead of in harmony.

First attempts to add other voices and counter-melodies to a given choral part came forth in England toward the end of the tenth and beginning of the eleventh centuries. The Germans subsequently added the fifth and later the third of the tonic to the single-voice melody.

CHAPTER 2

Early Teaching

Ancient and medieval musicians knew little of the human voice and its potential strength. One or two men of wisdom suspected the necessity of certain basic procedures to bring out its full resonance and range. Hippocrates (430 B.C.) remarked: "The human voice is like a whistle, and and it is very necessary to breathe deeply." Aristotle (350 B.C.) said: "The compass of a voice depends upon the age of the singer. The size and shape of the larynx is a great factor in a good voice." He added that "good singers" could enlarge or contract the larynx at will.

The Roman orator Cicero had definite ideas about proper use and preservation of the human voice. He placed much emphasis upon phonetics and diction, and said that each voice has a tone that can be produced easily and naturally, usually in the middle range. This tone should begin softly, swell to full resonance, then subside into softness once more. Self-indulgence, he wrote, is bad for the voice, and whatever strengthens and develops the body also helps the voice. A fine voice cannot exist in a weak or unhealthy body. He recommended food readily digested, rest after eating, then moderate exercise.

Galen (*ca.* A.D. 130-200), considered the last great scientist of antiquity, a courtier and fashionable physician of Imperial Rome, based his analysis of the human voice upon the larynx of a pig. He found a projection in the hollow of the larynx and claimed that expansion or contraction of this projection is controlled by two muscles, which ran from the thyroid to the arytenoid cartilage, and that pressure of air against this projection causes tone. He said that singing requires nose breathing.

But Galen was a physician, unconcerned primarily with the human voice; therefore, he had no ideas of proper vocal methods and left no recommendations.

The Greek orator Demosthenes stammered and his voice was of poor quality. He decided to "cure" himself of these defects by putting a pebble under his tongue and speaking over this obstruction, thus strengthening the tongue muscles. This is probably the first hint of vocal "method" to reach us through the ages.

The Emperor Nero, inordinately conceited about the mild gift of a mediocre voice, used plates of different metals against his stomach, dieted frequently and soaked himself in special baths.

Ancient and medieval physicians and musicians were agreed upon certain principles of good singing. The singer should emphasize clear enunciation, deep breathing and physical exercise; for the body must be developed, held erect—the mouth opened naturally, without distorting the face.

The first actual treatise on method of vocal development was written by an Italian, one Giovanni Camillo Maffei (*ca.* 1562). This book considers a definite theory of voice and singing. It describes varied types, the origin and the anatomy of the voice, and prescribes special exercises for florid singing. Subsequent Italian vocal schools based their ideas upon imitation of fine voices, physical development of voice and body, the virtue of clear diction and sensitive expression.

The pupil was urged to spend an hour a day in the study of literature, another hour on the theory of sound (as then known), further time in singing, counterpoint and the study of instrumental music. The student had to learn to memorize, how to sing without hesitation or fear, how to use the full power of his voice. This entailed emotion and all graduations of vocal sound, and control of the chest tone without breaking into falsetto. Schools of this period ex-

cted the student to bring a voice of good quality, and to velop the voice by repetition, imitation and natural in-nct. No Italian school would accept a student without a autiful voice and unusual musical ability.

The voice teacher Doni (1640–?) contended that cient methods of developing the voice had been lost; at the voice in olden times was hardened by drinking ecial concoctions of wine and herbs; that actors used ecial masks with mouthpieces to strengthen the voice. e advocated "wine in winter" to "warm" the voice.

An old recipe for restoring the voice after overuse ected the mixture of four dried figs (skin removed), e-eighth part mint, one-sixteenth part gum arabic, all lverized and rolled into pills, and dissolved under the ngue. And one could devise a mixture of resin and mint, bread on the fire," the student to inhale the fumes. Or one uld dissolve myrrh in the mouth; drink benzoine dis-ved in water; chew cabbage leaves and swallow the ce; clear the voice with a gargle of half cider vinegar and lf water. Even today, professional singers are fond of ch restoratives as cold tea, brandy and water, aspirin and da dissolved in water and the like. Possibly we have not ogressed too far.

Giambattista Mancini published a vocal method in enna about 1774. He did not have too much to say about cal training, except by imitation and learning to "bridge e registers"—meaning that the singer must learn the hniques of transition from one register to another without raying this technique to the listener. Should the voice "throaty," he said, the tone is not supported sufficiently the chest and the soft palate is too tight.

CHAPTER 3

The Student Listens

The student who comes to me merely listens at first. I explain to him that any training of the voice automatically will be corrective. I give the student a short, precise exposition of vocal rules to be followed, the why and wherefore of voice production, and how the vocal cords work, and describe the muscles in the larynx. I also set forth the correct action of the diaphragm and resonance chambers, position of the body, tongue action and the like.

The student makes a recording in my studio, and this I may or may not play back to him. I am constantly amazed at the inability of the pupil to recognize his own voice and to hear him insist that someone else is singing.

I explain further the functions and action of registers and the importance of isolating and developing each one. I begin with the most undeveloped register, working on corrective exercises that will strengthen weak muscles, at the same time loosening and relaxing muscles that interfere.

I never bother with a so-called voice placing, since sound travels 1,100 feet a second, and I find it impossible to direct this "vocalized sound" to any specific parts of the head.

Generally speaking if the singer feels a sound or the vibration thereof in his head, he can be sure that sound is being transmitted by a tight, tensed muscle. A relaxed muscle is a poor transmitter of sound, but one that is tense will carry vibrations very well. It was the great Manuel García, father of María Malibran, who said, "I can place a book upon a table, but I cannot place a voice."

It is important in training the singing or speaking voice to develop also the mind and its function in producing tone.

For with the mind we bring under automatic or subconscious control the muscles that engender the voice.

The vocalist is unique in many ways; for he is instrument and player in one, and while he performs, he keeps improving his instrument. The ways of voice culture are many and varied. One may say that culture of the voice is a means of *learning to manipulate the vocal resources to their full development.*

When singers speak of placing the voice, they mean really that every vocal tone shall sound alike; that the vocal quality of each tone is identical; that the same ease is felt in singing every tone in the range; that the singer had developed the maximum quality, intensity and freedom in each and every tone in his voice.

Singing is a healthy occupation. Deep breathing helps to develop the lungs and purify the blood stream by removing toxins. Singing forces upon the student correct posture; it induces extrovert expression; it lends poise and assurance, and the feeling that the student is doing something well.

Proper vocal development helps to enrich the speaking voice, making it more sonorous and full, thereby imparting assurance and dignity among people. Singing helps the memory by training the reflexes and the ability to memorize; it helps the student to appreciate fine singing, and stimulates his interest in prose and poetry.

Singing also can raise one's ideals by uplifting the mind. It is an important medium of self-expression, and will remove many stifling mental blocks. There are many more mental and physical benefits of singing.

Can everyone sing? This is a difficult question. Let me say this. If I can stimulate the mind of a student to a point where he will follow my advice without question, if he is not "tone deaf" he will develop a voice of fine quality. How far he will go with this voice is another problem. Many factors of mind, temperament, character and physical fitness

are involved. It is, therefore, almost impossible to give a straight answer to the question.

A lady presumably in her late thirties once came to me. She wanted, she said, to "study voice." Her husband, she explained, "loved her voice" and wanted her to study.

I had tested the voice in my usual way, and there was nothing there. By "nothing" I mean no quality, no sense of pitch or timing. In fact, there was no singing talent at all. She was most difficult to teach. At the end of a year, she astonished everyone by the purity and lovely quality of her voice. But still she sang off-key and could not seem to memorize. She was in the unfortunate position of having acquired a voice without knowing just how to use it.

The result, of course, was that she was more unhappy than before beginning her lessons, and she finally gave up. I had made four recordings of her voice, and each showed a marked step forward.

Here is another example. A man who had studied for eight years with various teachers and had virtually no voice left finally arrived at my studio. He had been trained as a tenor; his voice showed an obtrusive tremolo, and he sang off-key with a thin tone. He was intelligent, however, and followed my advice without question. He always felt that had I told him to stand on his head, he would have done so, perhaps with a flourish.

Within a year, the voice improved remarkably. But the Korean War intervened, and he was inducted into the army. He gave a concert in Korea, at one of the Korean colleges, and was received with great acclaim. The four recordings I made showed immense vocal progress.

I could cite many more examples, but these will suffice to demonstrate the results of a correct vocal method, properly applied and practiced.

Voice itself, of course, never has made a great artist. Additional skills and virtues are needed, and among them I would mention:

Musical ability
Intelligence
Dramatic ability
A retentive memory
A strong will to succeed and overcome obstacles
A passionate desire to sing
Good health
Fine musicianship
Ability to relax mentally and physically

Students require varied periods of time in which to establish the fundamentals of singing. This means that they must know them mentally and be able to apply them physically. One student may acquire these fundamentals in as brief a time as a year. I have had others who after one or two years sounded just as bad as they did when first they came to me; still others were able to produce beautiful tones in three to six months. All of this depends upon the relative mental ability of the student.

It is necessary to establish in the mind of the pupil the right concept of a beautiful tone. If the mind cannot accept these precepts because of preconceived notions of how the tone should sound, the lesson will be most difficult. Almost all students do have this notion; they will tell the teacher how good they are. It has always seemed to me, and I usually tell the student, that if he thinks he is that good, why bother with a teacher at all?

The most important problem of the voice teacher at first is how to deal with the psychological problem of the student's attitude toward singing. Only after this initial problem has been solved can the teacher go on to techniques and the anatomy of voice. The student must have faith in his teacher; otherwise, he should not seek him in the first place.

CHAPTER 4

Breath and Song

Muscles and their proper use are the bases of all adequate techniques in singing. The singer who realizes that the voice is a natural component of the body, that to sing is a natural process, needing no artificial "method," will become an artist *per se* without strain or turmoil.

It is important that vocal muscles and their adjoining parts be studied carefully, in relation to use of the voice, either in singing or in speaking. It must be remembered that the striped, voluntary muscles of the torso expand and contract the lungs. The chest and lungs are surrounded by bones and muscles. We call this covering the thorax. The mechanism of chest and thorax is very elastic, and can expand and contract as these muscles dictate. An inhaled breath creates a space in which the lungs expand, aided by muscles of the ribs, back and lower torso, as the diaphragm moves downward. These striped (or striated) muscles can move singly or in unison, thus moving one or more parts of the body.

Muscles, however, depend upon each other, each a link within a chain. For example, the *trapezius* muscle, running from the back of the head down the back of the torso along the spine, interconnects with the *rhomboideus* (*major* and *minor*) muscles, which extend from the lower neck of the shoulder blades. The *serratus magnus*, connecting collarbone, shoulder blades and upper ribs, is an important factor in holding the breath.

When we relax the shoulder blades and hold them in a natural position, the *serratus magnus* muscles can help to fix the "outward holding" of the ribs. The *pectoralis* muscles

(*major* and *minor*), which extend from the collarbone and shoulder blades into the ribs, help to maintain the thorax in proper position

The *latissimus dorsi* muscles, attached to the hip bone and connecting the lower ribs with a tendon that ends in the under side of the arm, also is important. This helps hold the lower ribs outward and slightly upward. For proper action of this muscle, the collarbone and shoulder blades must repose in a natural position.

The intercostal muscle lies between the ribs. There are two sets—the external intercostal and the internal intercostal. Their action is twofold, for they keep the ribs together with the aid of abdominal muscles. Hence they are inspiratory muscles when the breath is inhaled, expiratory when the breath is exhaled.

All of this will give an idea of muscular processes in holding the breath. Any good book on physiology will provide a deeper and more exact insight into the functions of thorax muscles.

Many singers have been and are taught to keep the muscles of the thorax completely relaxed. This would be fine, if they were not also taught to keep them relaxed while singing. No work can be performed by a relaxed muscle. The truth is that many singers and speakers keep their breathing muscles too tense in the *expiration movement.* They have gone into reverse, so to speak, and find themselves prone to a pushing-in instead of a holding-out tension.

There must be a point in between, neither too relaxed nor too tense, but a good muscle tone, ready at the slightest mental command to invoke a tension—*holding out,* not holding in. If the muscle is forced either way beyond its capacity, it will not respond, will not grow in strength and in time will lose its elasticity.

Muscles that open or expand the chest—forward, backward and sideways—plus the outward movement of the

upper and lower abdomen, plus the side and backward movement of the waistline, create an inspiratory tension that must, *must,* MUST be held while the student is singing. Again let me state that this outward tension *cannot* be felt unless a deep inhalation, with a completely relaxed abdomen, has been made.

Now, with these preliminaries fixed in your mind, with the vocal anatomy fully specified and explained, we come to the question of correct breathing.

The importance of correct breathing cannot be too sharply emphasized. No matter how perfect the voice may sound, how complete the co-ordination of vocal muscles with a mental concept of tone, any given voice not supported by sound breathing technique is bound to deteriorate. The singer will find his attacks insecure, and the quality and range of tone mediocre and subject to decline. These defects might not show up for several years, but the gradual degeneration will be relentless and complete.

The novitiate singer is fed upon the theory that the breath should be pushed against the vocal cords, thus setting up a series of vibrations. Singers are told to "push the diaphragm in at the moment of attack," or to "jerk the diaphragm out at the moment of attack." Other contradictory instructions are numerous and confusing.

It must be understood that the vocal cords are delicate, compared to the diaphragm and the chest and abdominal muscles. Any pressure of the breath induces tension—of throat, jaw, tongue or mouth. The throat must constrict to allow less air to escape; for the vocal cords are far too weak to resist the pressure of this enormous tension. Correct use of the breath then becomes an important part of the training process.

It is necessary for the future singer to learn how to "hold" the breath for the voice is produced upon breath compression, not upon breath pressure. True communication between teacher and pupil must be established so as

to impress upon the pupil the potential effects of holding the breath while singing. Each student is an entity unto himself, a mind slightly different from any other in its approach to immediate problems. The teacher should therefore study the individual to find the most effective method of producing the best results.

He should explain to the pupil just what nature has bestowed upon us in the way of physical resources so that we can hold the breath without undue strain. Certain natural processes are involved, and we are compelled to certain conclusions when we examine these processes.

If we attempt to analyze the process of sneezing, we find (1) that the jaw drops slightly, (2) that the lip is lifted, (3) that air is inhaled rather quickly, (4) that air is held for a fraction of a second, (5) that air is forcibly expelled. The most important of these discoveries is No. 4, which demonstrates the balance of inhaling and exhaling muscles. For an instant, so to speak, the student has "held" his breath.

Weeping or sobbing presents another interesting process of breath control. Here we also hold the breath. In calling to someone across the street or out the window, we inhale, hold the breath, then expel it in the call. Yawning is a fine exercise for holding the breath, but it can be dangerous if the yawn is faulty. We take an enormous breath, expand the torso in back and front and on the sides, and *hold* the breath for a moment before letting go.

Let us try to teach the future singer the use of two sets of muscles, for inhaling and for exhaling. The first expands the torso, creating a vacuum; the air rushes in to fill the void. The second set then contracts the torso and pushes out the used air. Both sets of muscles are under direct and automatic control.

When the student learns to inhale a deep breath through the open throat without lifting chest or shoulders and with the spine as straight as possible, he will find an optimum

point at which both sets of muscles exert the same pressure.

We may call this condition balance. The student will have a feeling of *outward* tension around the belt line. It is this out tension that must be maintained at all times. As he sings higher tones, the out tension increases in proportion to the rising pitch.

This holding tension results in a free movement of the diaphragm. There is no pressure against it, either from internal muscles or from organs.

It is surprising how many singers pull in their abdomens and cannot take a deep breath unless the shoulders and chest are lifted from their natural positions. I find the most frequent faults of students to be—

1. *Tight abdominal muscles.* Result: The student is forced to lift chest and shoulders to increase breath capacity.
2. *Jerking or tensing diaphragm.* Result: The breath is pushed against the vocal cords, causing vocal constriction.
3. *Curved spine.* Result: The pelvis is out of position; back muscles sag; torso muscles do not co-ordinate.

These faults can be compounded in a hundred different ways and combinations, causing untold harm to normal equipment.

There are some exercises which the student can do at home, to improve his mental and physical concepts of holding the breath, and to establish correct movements of abdominal and back muscles—the complete muscular structure of the torso.

Have the student lie on his back on a hard surface, then place his right hand, loose and relaxed, over his stomach. Then he should slide the left hand, palm down, gently under the curve of his spine almost below the naval. Have him take a very deep breath, and exhale at once. It is important that he should *not,* under any circumstances,

hold his breath after he has inhaled. He must let it go immediately.

If he has done all this without undue tension, he will find that this has occurred: The abdomen has moved up and out; the back has moved out, pushing against his hand and the floor. The sides of the body have moved out, but he has *not* lifted the chest or shoulders.

I use this exercise frequently to convince the student who says, "But I cannot take a deep breath without lifting my chest or my shoulders." I hear this statement often. The exercise implants in the mind of the student the fact that it is possible to take a deep breath without movement of chest or shoulders, Thus do we start the process of "I can" instead of "I can't."

This is the only exercise that the student does himself, at home. Any other breathing exercise would be futile there, because it must coincide with the act of singing, and this can be done only under supervision of a teacher.

The future singer must learn that the proper stance, muscular co-ordination and mental attitude are requisites. He must stand up straight; often it is helpful for him to stand against a wall. As he stands before you, have him separate his legs, one foot six to eight inches in front of the other, the knees slightly flexed, the pelvis under and forward, chest in normal position, neither raised nor held down. Arms must be relaxed at the sides, shoulders relaxed, neck as long as possible, without stretching, head slightly raised.

When the student is in this position, ask him to let go and relax the abdomen completely. Have him open his jaw slightly, about the width of a finger. Ask him to take a deep breath slowly, without changing his position—evenly in one uninterrupted movement. Stop him at once if there is any jerking, wriggling, twisting or any other movement.

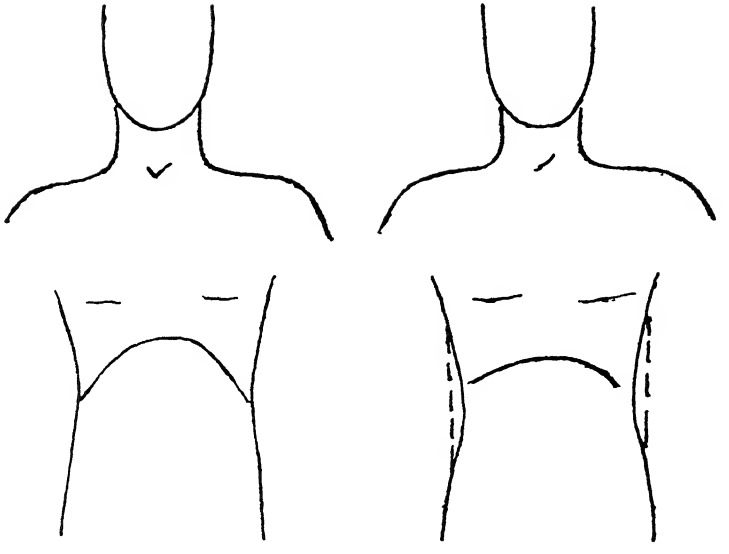


FIGURE 1A. FRONT VIEW: EXHALATION/INHALATION

If any such movements are evident, or any movement except outward push to the abdomen, you may be sure of muscular tension. There must be no movement during this stage of learning how to inhale without tension.

As the student inhales, the teacher must watch for (1) outward movement of the abdomen, (2) outward movement of the back, (3) outward movement of the sides. If you see these movements, he is doing well. If not, associated tensions somewhere in the body are apparent. The abdomen *must* be relaxed while he is inhaling; it becomes outwardly tense only when a deep breath has been inhaled, *without lifted shoulders or chest.*

The teacher should watch the student inhale. If, when he has inhaled a small amount of air, he must move his

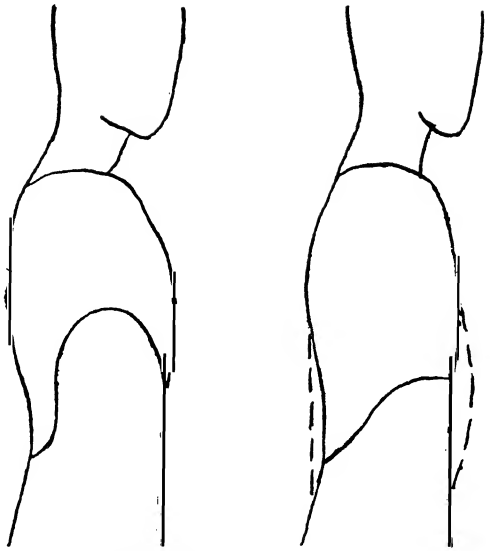


FIGURE 1B. SIDE VIEW: EXHALATION/INHALATION

chest and/or his shoulders to get more air, stop him at once. This is as far as he can go for the present. In time he will learn to relax the exhalation muscles more and more, and soon will be able to take deeper and deeper breaths. It must be remembered that the student cannot feel the inhalation tension (so important to correct singing) until he has learned to take an enormous inhalation without tension. Then the inhalation tension, the tension to be retained while singing, can and will be felt.

Here are a few points that the teacher should remember:

1. Hold body straight, spine and pelvis in alignment.
2. Chest and shoulders must be relaxed.
3. Abdomen *must* be relaxed and relinquished, so to speak. (Women are so concerned about a flat abdomen.) This actually strengthens the abdominal muscles.

4. Head should be straight, and tilted slightly upward.
5. Neck must be as long as possible, without tension.
6. There should be *no* extra movement of any kind while inhaling or exhaling.
7. As a deep breath is taken, the throat is wide open. The jaw, tongue and throat muscles are relaxed, not tense—actually in a condition of muscle tone. For a completely relaxed muscle is a dead muscle and cannot be used.
8. As the student inhales deeply, watch the torso expand. At the proper time, while he is still inhaling the last bit of air and the abdomen is still moving, have him sing a single tone for a brief interval, and see if he can hold the expanded torso while singing.

The inhaling tension must be held while singing, so that the throat can be kept open and no pressure is brought against the vocal cords. Freedom of the vocal muscles thus is assured, plus proper vocal development through other exercises.

Here is an exercise almost identical to some that doctors use in relieving the suffering of emphysema, for its helps to clear out the lungs. We call it diaphragmatic breathing.

1. Lie down flat on your back, on a fairly hard surface.
2. Place one hand on your abdomen and lower ribs, the other hand on your chest. If your abdomen protrudes as you breathe in, you are breathing with the aid of your diaphragm—which is the correct way. If your abdomen does not protrude as you breathe in, practice until you have learned diaphragmatic breathing.
3. Place both hands, fingers touching, on your abdomen below the navel, and inhale abruptly and deeply for one second. Exhale slowly from four to five seconds. During the last part of each breathing out, press firmly inward and upward with your hands. This helps to get rid of trapped

air and teaches diaphragmatic breathing. If you do this properly, your abdomen and diaphragm move, but the chest remains almost at rest. In time, as correct breathing becomes a habit, you will not need your hands for pressure.

Practice this exercise lying down, then sitting up, then standing up, then while walking.

CHAPTER 5

The Registers

The history of vocal teaching holds vast and varied speculation as to the number of registers in the human voice. A welter of conflicting views beset the profession for many years. Some teachers insisted upon a single register; others were sure that vibrations of the lower voice originated in the lower part of the throat, near the chest. They agreed and argued that the middle voice emanated from the throat itself, and the high voice from the upper cavities of the head. Hence, there could not be fewer than three registers.

Persistent application of various theories gradually forced upon teachers the conclusion that the human voice has two registers. Anatomical analysis proves the truth of this conclusion.

But for a long time, theories wandered in quaint directions. It was supposed that male singers only could use the lower, or chest, register—that the higher, or "falsetto," register was the exclusive property of the feminine voice. Now there is no further need for speculation. Physiology has taught us beyond cavil that there are two vocal registers, and that the vocal apparatus in both sexes is the same.

We know from modern research that vocal sound varies according to the tension of the vocal cords, and that a degree of tension is set up by two sets of muscles, crico-arytenoid, at the rear of the larynx, and the cricothyroid, at the front. Many other muscles animate the larynx—the

posterior cricothyroid, the lateral cricothyroid, and others with which we are not concerned at present.

The singer uses the arytenoid muscles to attain the high register of his voice. Development of these muscles at the rear of the larynx helps the arytenoid cartilages hold firmly the tensions produced by the cricothyroid layer. The cricothyroid muscles, in front of the larynx, act in producing tones in the low register. These two sets of muscles, working together, control the tension of the vocal cords, and thus govern the frequency of vibrations.

As there are but two, and only two, sets of muscles that control registration, it is reasonable to assume that only two vocal registers are possible. Let us call them, for simplicity, the high and the low register.

Obviously, for optimum voice production, both sets of muscles should be fully developed and a balance maintained between them. Unequal development in either direction, instead of producing beautiful tones, engenders noise, another name for uneven vibration. Overtones do not harmonize with the fundamental tone, and the ensuing noise is discord that jolts the nerves of the listener. Both registers must be evenly developed to hold the requisite tension of vocal cords, and to evoke the proper consonant vibrations at any pitch.

Do not forget that proper registration (the function of the two voice registers) controls the quality and intensity of a vocal sound, *not* the pitch. One can sing in either register at the same pitch, but there will be a difference in tone and volume. A low pitch in the high register is soft and breathy, and may be little more than a whisper. In the low register, the tone will be heavy and powerful. A true mental concept of every tone to be produced is necessary for the proper use of both registers. This concept should concern pitch, vibrato and power. This preconcep-

tion of the desired tone, in great singers, has been developed to the point where production of a correct tone and its accompanying harmonic vibrations is merely a reflex, without conscious effort. Achievement of this condition in the student should be a primary aim of the teacher.

Development and equalization of the two registers is basic and essential in the creation of a beautiful voice, but this is only the first of many steps toward that goal. When the student has mastered control of both registers, he is ready for the next step toward enrichment of tone. This embraces control of the resonators.

CHAPTER 6

The Chest Register

One of my many teacher-training courses I took with Dr. D. Stanley, and I must give him credit for developing the following physical manipulations in register development. They are beyond reproach. I use them only when all other avenues of vocal development have failed, and then always with discretion.

When the voice does not respond to a tone properly conceived, certain movements and manipulations are in order. These exercises are designed to ensure muscular balance, the requisite tension and co-ordination to bring out the stifled voice.

The celebrated Dr. Kraus of Berlin, specialist in diseases of the throat and larynx, had this to say about the vocal mechanism: "I have cases among patients who are singers, who have strong and balanced vocal muscles, and tongue muscles correctly developed, thus opening the back of the throat. As a result, their voices are large and of great compass and fine quality. The right kind of vocal muscles and tongue exercises can be used to bring the vocal mechanism into correct working order."

Dr. Bennati, who treated Catalani, Tosi, Santini, and Lablache in the early nineteenth century, found that these great artists had highly developed tongue muscles —that the finer the voice, the larger the tongue. He noted that when the tongue was fairly flat on some vowels, and high in the back for others, the voice was rich (dark). The

base of the tongue pulled forward thus opened the throat, and this resulted in a larger resonating cavity.

Under these manipulations, tones produced by the vocal organ will change in quality, and become purer and brighter, and the singer will find that his voice will be less throaty. The student who has listened through the years to his own voice, has accepted and learned to like this throaty quality, may vow to himself and his teacher that he has acquired a new voice. He may not like the new voice. If he does not, I suggest that a recording be made, by tape or disc, so that he can hear the improvement. I am sure that the student then will like what he hears and will co-operate to a greater extent with the teacher.

Let me describe these exercises and how to use them, under what conditions they should be applied and how to determine the degree of improvement. It must be understood that the student may not try physically to help, nor may he try to control any muscles while singing a pitch. The subsequent improvement may be ascribed to the following reasons:

1. Some muscular interference from the wrong and/or constrictor muscles is corrected.
2. There has been a slight increase in strength of the cricothyroid muscles.
3. There has been relaxation and consequent slight release from the thyrohyoid ligament and muscles, contractions and/or unwanted tensions.
4. The student has become aware of vocal improvement in both conscious and subconscious minds.
5. The student likes what he hears. The tone has improved, so he must try mentally to recapture the quality he has heard under these manipulations.

One can see in Figure 2A how the thyrohyoid ligaments) have become contracted and foreshortened. The hyoid ne has descended and the larynx moved up to a degree he two have met), and we find that the student, male or nale, has no voice. The student may be able to sing tches, songs and the like, but the quality is always roaty, sometimes edgy and generally an unpleasant one in mparison to a fine voice. No. 2 in Figure 2B is the point attack for the teacher about to handle the problem of throaty voice. Insert two forefingers gently in the little ening that can be felt at or near the back of the larynx. o not push the fingers deeply into the side; all that is eded is to get a grip, so to speak. The hyoid bone *must* st on top of the fingers. When this is accomplished try ry gently to lift the fingers, or to rotate them slightly. A ght lifting action is needed so that there will be an ward "give" to the hyoid bone.

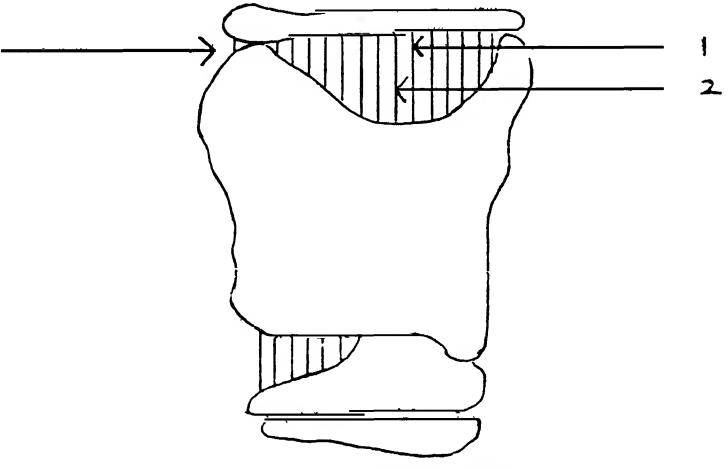


FIGURE 2A. SIDE VIEW OF LARYNX

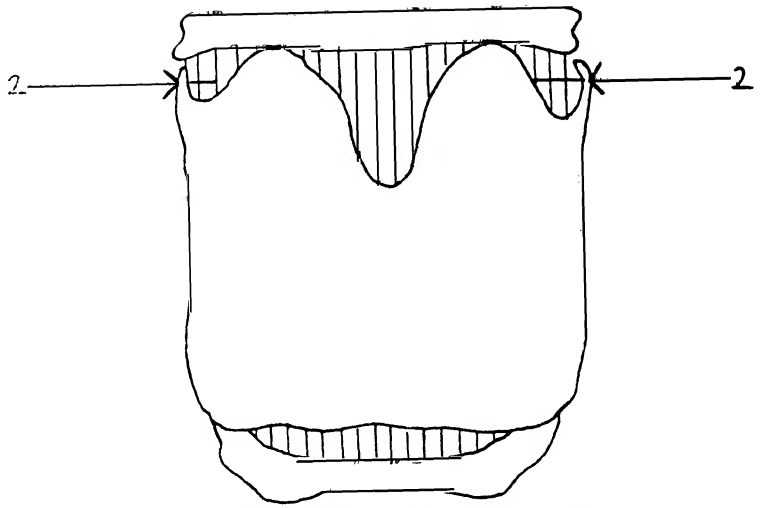


FIGURE 2B. FRONT VIEW OF LARYNX

At times this can be unpleasant and even painful. But I explain to the student that if his arm were tied to his body for one year or longer, in a cramped position across his chest, when the bonds were removed he could not bring the arm back to its natural position without extreme pain.

Often it is advisable to place one finger on top of the hyoid bone on the left side and the other beneath it on the right side (Figure 3). Then the hyoid bone is tilted up and down, one side going up and the other down like a seesaw. Then we reverse the fingers position and repeat the seesaw action.

These muscular movements are made by the teacher, and the student does not use his voice. During this exercise, the student has lifted his head high, markedly stretching the neck. Remember, an elongated muscle becomes longer and thinner, and has lost its power of contraction; a shortened muscle becomes thicker and stronger, accentuating the power of contraction. At this point, we need the following:

1. Have student elongate his neck (neck as long as possible) to stop contraction, thus constriction, of the neck muscles.

2. Have him hold his head high, looking up slightly (held at a slight upward angle).

3. Relax his shoulders and chest (not raised).

4. Hold his mouth slightly opened, about the width of a forefinger.

5. Breath as deeply as possible without internal mouth or throat tension. The student must let go *inside* as much as possible.

6. Let him inhale and exhale slowly, without jerkiness, until he feels that his tongue and jaw are relaxed as much as they can be at this stage of his instruction.

7. While the student is thus engaged, the teacher should try, gently and easily, to separate the hyoid bone from the

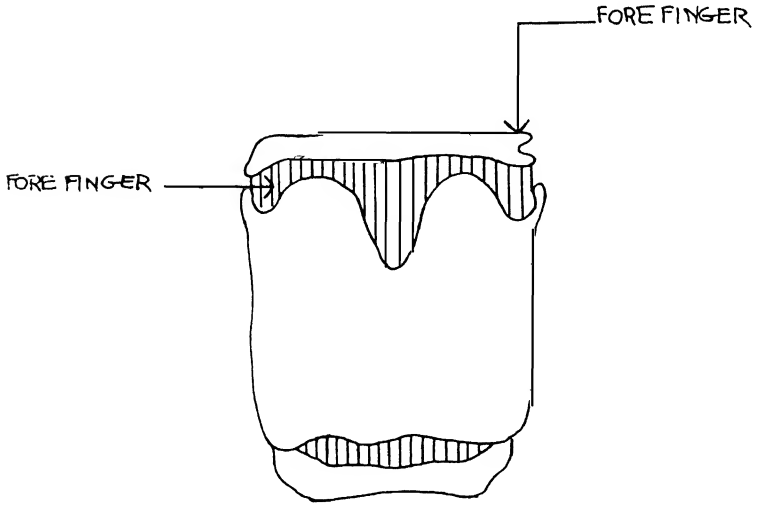


FIGURE 3. FRONT VIEW OF LARYNX

larynx. This will be more effective if the bone is lifted as the student inhales and released as he exhales.

8. Place one finger on top of the left side of the bone, the other underneath it or the right side (see Figure 3). It is lifted gently, on one side, and pushed down on the other. The process is then reversed.

9. The larynx is pushed gently from one side to the other, like a tree swaying in the wind—not too much, but as freer movements occur, this can be increased.

Figure 4 is a front view of the larynx showing constricted ligaments (1) holding the hyoid bone very close to the laymx. Put the forefingers at points 2 and lift, gently at first, then with stronger pressure as the ligaments release their tensions. Always lift when inhaling and release when exhaling.

When the bone has loosened, and is pliable and responds freely to movement of the fingers, the student has no unpleasantness, for the throat feels relaxed. At the same time, much to the student's astonishment, he is capable of inhaling more air, and he senses a larger throat opening.

It is beneficial, now and then, to place the finger at the side of the larynx while the student is inhaling. Now move the larynx sideways, like a tree swaying in a breeze. Don't move it too much, for tensions tend to decrease the movement. The movement may be increased, but not enough to throw the throat out of alignment. A gentle sideward swaying usually is enough. This with the hyoid-bone separation movements helps to release throat and tongue tension. When the larynx, hyoid bone and throat tensions have been released, we can start to "pull in" a bit—not too much—lower register tension. But again, I have found it best to work *silently,* without vocal sound, on these exercises until the tensions have abated.

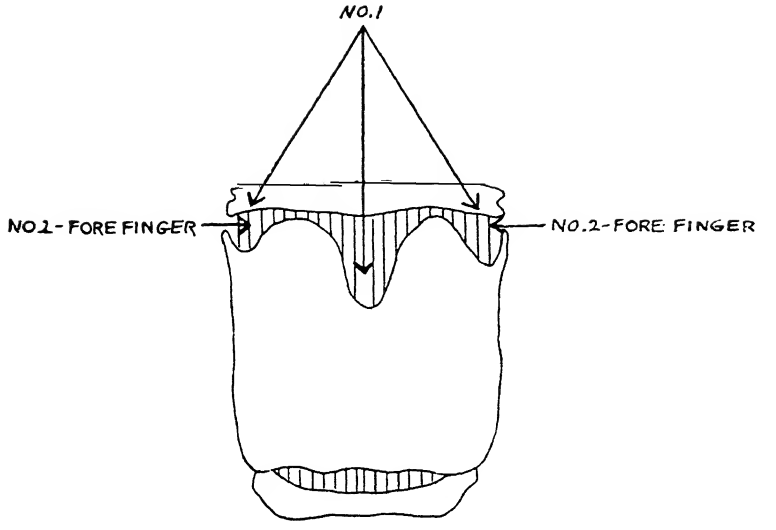


FIGURE 4. FRONT VIEW OF LARYNX

These exercises are intended to develop the lower, or chest, register and so establish immediately a pure lower tone. It is best to start this exercise on D above middle C. Sometimes it is well to start at a higher pitch if the tone is pure chest tone. In this exercise, we are trying to help the cricothyroid muscles toward an extra tension that is important in the process of cord-stretching. By applying the pressure of forefingers (always light), we can pull in this needed extra tension.

This works on the principle of weight-lifting. At first a light barbell is used; then, as the muscles grow stronger, we increase the weight. The developed cricothyroid muscles slightly tilt the larynx forward and downward, but to such a slight degree that for practical purposes there is hardly any movement. It is this downward tilt of the larynx, and

elongated vocal cords helping to anchor them, that increase the stretching ability. It must be assumed that the cricoarytenoid and thyroarytenoid muscles also are developed—but more of this later.

We then tell the student his cue. Any cue will do, provided the student learns to respond immediately without extra exertion. Now we play the D on the piano, and tell the student that at this pitch played or hummed, or at the word "Go," he is to sing the note, no matter how it feels or what he may be doing at the time. The cue is a signal to *sing*. It is important that he must *sing* the pitch at once; if he hesitates or does not respond on cue, the time lag between the applied laryngeal tension and his singing will destroy any improvement that may have been established.

Let us start with the vowel AH, neither dark nor too bright, rather a sound on the bright side. There must be a certain amount of intensity in the sound; neither soft nor loud, something of *mezzo forte*, depending in turn upon the student's vocal equipment at the time.

I say "at the time" because, lesson by lesson, the voice keeps growing, and the *mezzo forte* changes according to vocal growth. A point is marked in Figure 5 where we place the tips of our forefingers. At the moment of attack press down easily and gently. The tone produced by the student at once should be fuller, with more body and ring, and of a brighter quality. This heavier tone should be held briefly, say one or two mental counts, whereupon the downward pressure and tone is released. If there are no noticeable results, try pressure points 2 and 3 with just one finger. The ears of the teacher must be alert to the best place for pressure so that the resulting tone will have better quality in every way.

We may assume that by this time the hyoid bone has

been freed from downward tensions; thus it is fairly easy to place the forefingers between it and the larynx. If not, this exercise will be of no avail. It will be necessary for the teacher to work a little longer with the student until the "separation" of hyoid bone and larynx is complete.

Let us review all the details that involve the student if the exercise is to be effective:

1. Hold head fairly high, at a slight upward angle.
2. Extend neck as long as possible.
3. Relax shoulders and chest held neither up nor down.
4. Open mouth slightly.

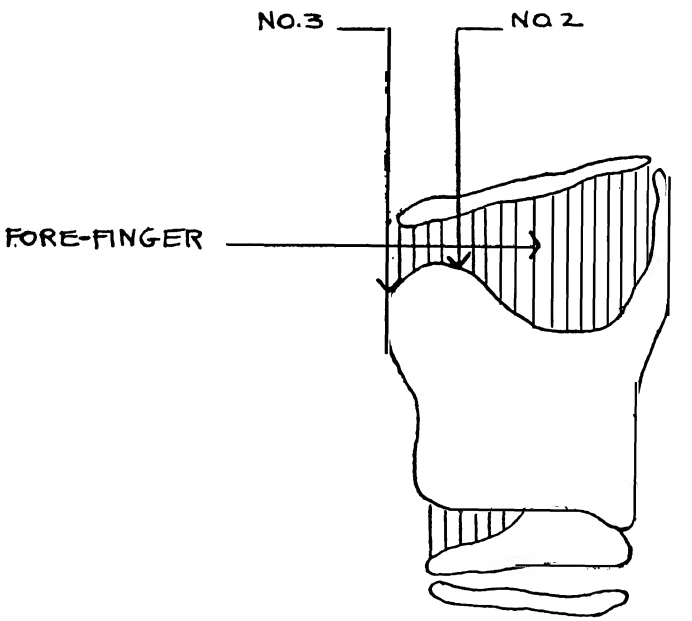


FIGURE 5A. SIDE VIEW OF LARYNX

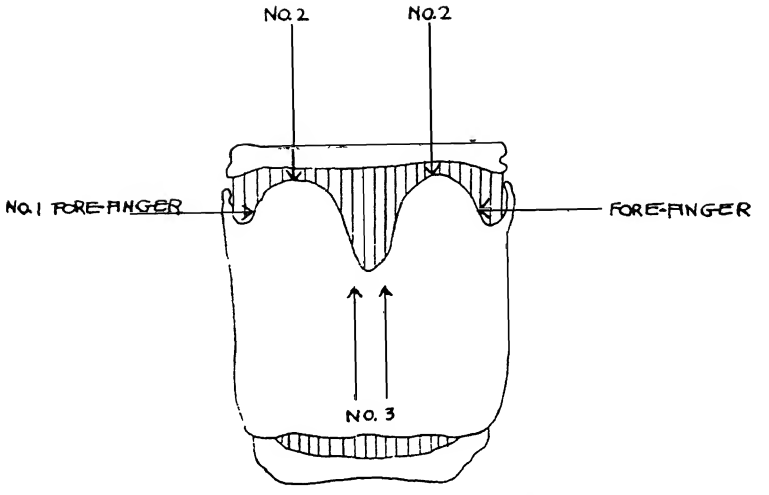


FIGURE 5B. FRONT VIEW OF LARYNX

5. Inhale and exhale slowly through the mouth in this position.

6. Student should think of the vowel–in this case AH.

Meanwhile the teacher places his forefingers gently upon indicated parts of the larynx. The cue, in this case D or any other note, has been established in the pupil's mind. The teacher watches for a deep inhalation. When the student has inhaled about three-quarters of his breath, the teacher gives him his cue, and at the moment he attacks the pitch, he "pulls in" a little chest register, neither too much nor too little. The ear will tell when the tone has improved.

If too much pressure is imposed on the larynx, the teacher will displace it and tthe voice will become completely "throaty." The teacher may place his two forefingers between the bone and the larynx while the student breathes

slowly through a relaxed mouth. Now gently lift the hyoid bone upward and slightly forward; and then, on a given cue, have the student sing AH.

(When I mention a student, I mean of either sex, of course, unless I specify male or female.)

It is important to remember that there are different natural stages of the chest-register development when a student begins. Usually in males the chest register will predominate, mostly in a bass, then in a baritone, to a lesser degree in a tenor. The tenor is apt to show a mixed quality of tone. Either his lower register is undeveloped or throaty, or he may use little of the lower register in singing—frequently in a mixed chest and falsetto register. His voice will be thin, pinched, throaty and/or nasal, and the sound of the voice approaches the feminine. It is desirable with this voice (once the hyoid bone has been lifted) that the lower register be pulled in as soon as possible. If the student can get one or two tones in this register properly, he will feel immediate relief in tension of the middle and upper tones, provided he keeps the neck long and the head high.

An octave above the pure lower register, the student will be able to sing a breathy and hollow falsetto. In the female, if she sings in a very throaty way, sings with an edge or screams her tones, the upper falsetto has deteriorated to such a degree, through nonuse and forcing the middle voice, that it will be impossible for her to sing any pure tones. More on these conditions later.

If a female has a good upper voice, it will be simple to work on the lower register which can be developed as well as the natural high voice. Whenever the voice is out of balance (overdevelopment of either register), the undeveloped register must be brought in strength and purity to equal the other. Only when both are balanced can regular vocal development be started.

The foregoing exercise is applicable to either sex, and the same pitches may be used. As the female sings an octave higher than the male, she uses the falsetto voice only in the upper register; and if she sings full voice, the lower register is right behind the upper. The male uses the chest register all the way, except for a pianissimo, then falsetto only. But the falsetto tension is always in his voice.

CHAPTER 7

ıe Falsetto or Upper Register

A group of muscles in the larynx called arytenoids pro-
ce the upper register of the voice. They are thinner and
t as heavy as the cricothyroid muscles of the chest
gister, and function as stretchers, or tensors, of the vocal
rds. The tension of these muscles supports a high pitch
d, when a soft (pianissimo) tone is sung, on any pitch.

It must be understood that the vocal cords are not thin
composed of stringy muscles, so to speak. They are more
e strong rubber bands, and are rather broad. The little
ramid-shaped cartilages in the back of the larynx are
tated or pivoted by the arytenoid muscles and so bring
e vocal cords together. The upper part of the cords thus
proximate each other, forming a sharp edge that can be
brated easily by the breath.

A German professor of anatomy, Dr. A. Pansch, says in
s book on anatomy: "The larynx is a small tube of movable
rtilages which surround the vocal cords. The stretching
the vocal cords is accomplished by the specialized
yngeal muscles."

When men or women sing the upper or falsetto register
the pure form, it is almost inaudible in the lower tones,
comes light and airy in the middle tones, and as higher
tches are sung it increases rapidly in volume. This upper
gister must never be used beyond its limits or it will
ack, or break, as only a certain amount of volume can be
ed with safety for each falsetto pitch. Of course, each
dividual has a different volume or intensity level and

should know just how far the increased tension can go. The falsetto, in pure form, is always dark and pleasing.

By the term "registered" we mean that the muscles of the larynx are co-ordinated in stretching the vocal cords and holding them in tension against the compression of breath. Remember, as the pitch descends, the falsetto becomes weaker and does not go as low as the chest register. But as the falsetto ascends, it becomes stronger and more firm. But please understand that in a perfect voice, the two registers do overlap, more or less, throughout the range. The falsetto gives range, quality and pianissimo sounds to the voice, while the lower or chest register gives the voice strength and power.

The arytenoid muscles in falsetto hold the vocal cords firmly to the back attachment. When a loud and intense tone is sung, these muscles hold the vocal cords in close approximation. When tones of lesser volume are sung, the arytenoids begin to relax, and therefore do not approximate the vocal cords quite as firmly (more air, less sound). When a very soft tone is sung, the cords are more widely separated; thus we hear a breathy tone. More air escapes, and there is less vibration in the vocal cords, therefore less sound.

When the student learns to vocalize in the upper register, it is vitally necessary that the falsetto pitch be attached in *the middle*. Any slurring will abort efforts to develop this register. The tone will mix and deteriorate. If you slur (short, medium or long) it will be impossible to get the correct arytenoid tension in the tone, whatever the pitch.

Wherever the tone has been started, the initial sound has the falsetto tension. You sing a middle C in falsetto; if your slur, however, has started at B, you have the falsetto tension for B, not C. Consequently, this tone will not be pure and will not have the correct arytenoid tension. The

tone is mixed, somewhat, depending upon the length of the slur.

The upper register, when sung properly, is always dark. I do not use the word *mellow*, although the tone could be thus described. The student will sing what *he* thinks is a "mellow" tone, but the tone is apt to be throaty. The upper register must be sung with a dark U (the German U) or a dark I (the Italian sound EE). The dark E sounds more like the German ü or a bit of the French EU.

These tones should be sung singly at first—that is, short and later sustained pitches; let us say, perhaps, a half note at the beginning. Usually, in the higher pitches, where there is greater falsetto tension, the tone is apt to be purer and not as breathy as the medium or lower tones. The G below high C is a good starting pitch for the female voice. Remember that although this pitch is written the same way, the male voice sings it an octave lower.

It is best at first to sing this pitch on HOO or HU, though the *h* must be omitted later. When the falsetto is sung this way, the pupil must *not* try to hold the breath back, no matter what was said before about holding the breath. This comes later.

At first in falsetto there is a tremendous amount of breath expulsion—much more in the medium and lower pitches, less as the voice ascends. The pupil should take a deep breath, and be sure that the abdomen is relaxed. As the breath is inhaled, the abdomen moves out; *not because* the pupil is pushing it out, but as a result of taking a deep breath without lifting chest or shoulders. The pupil must let the abdomen *fall forward* with the inhalation, then let it expand outward at the sides (the muscles between the hip and chest space). The lower back also must expand. Just before inhalation ends (inhaling the tail end of the breath), the pupil should sing suddenly the G, on HOO. In

the male, the voice will be used up completely and he can feel and see the abdomen moving back and in as he uses up his breath. One must be careful not to do this too often, for too much oxygen will enter the blood stream because of the fast inhalation and exhalation and the pupil will feel lightheaded. In that case, the pupil should relax and sit down, then start over again. He must remember to keep his neck long, his head slightly raised, his jaw dropped, slightly pushing upper and lower lips forward so that a bit of teeth shows.

Be sure that when the pupil attacks the tone there is no movement of the head, no chest or shoulder movement. The only movement permissible is inward, or toward-the-spinal, movement of the abdominal muscles.

In males, the sung falsetto in G will be absolutely steady, hollow and breathy. The tone will sound very much as if the pupil were blowing over the top of a bottle. Don't pay too much attention to that pitch, but listen to the dark, hollow sound, which is dead-steady. The singing is wrong if there is any movement in the sung-falsetto pitch. It must sound "hooty," hollow, dark, dead-steady, almost like a big flute.

The female falsetto voice singing the G in the upper register will have movement, a vibrato. But if the same falsetto tone is sung an octave lower (the G above middle C), it will be just as straightforward, hollow and steady as the male falsetto. In this case, both pitches may be sung identically by both students. (Remember that the male sings the G below high C an octave lower; he actually is singing the G above middle C.)

If, in the course of this procedure, problems arise or the procedure does not work, try a different approach. Have the student take a lower pitch, sung as before. Is it breathy or merely weak? Does it sound "hooty," like blowing across the top of a bottle? If it does, fine! But instead of using the

HOO for the middle, change the syllable to LOO, LOO, LOO!

The pupil should throw the tip of the tongue rapidly from the L position when the tip touches the roof of the mouth to the OO sound. Vary these experimental exercises until the pupil can sing a pure falsetto tone. The male will best remember this sound, for it was what he sang before his voice changed.

Have the student try the K sound; pronouncing the KAY slower and slower. The back of the tongue reaches up on the KAY sound. When the pupil whispers the sound, do not let him end up with the other vowel sounds; just let him whisper the *k*. The modulate *k* into a whispered OO will approximate a pure OO sound. Have him whisper it again, then sing the KOO on a medium pitch, softly and with a relaxed throat. He must *not* try to help the tone with any tension or muscular thrust. The throat must feel as free as when he inhales or exhales. The only action condoned at this point is of bringing the vocal cords together so that the breath sets them in vibration.

The pupil must let his jaw sag, in the same position as inhaling a deep breath, without tension. Then let him sing KOO in the middle pitch, the higher pitches on HOO. When this is established, take the higher pitches—short, single pitches, until the tone is more secure, whereupon they may be sustained for longer periods. As soon as a fairly free falsetto has been established, stop using the *h* in HOO and the *k* in KOO; do the exercise on the pure vowel.

A paragraph of cogent advice to the teacher is quoted from *The Living Voice*, by John C. Wilcox (Carl Fischer, Inc., New York):

> Do not assume that the way to eliminate harshness or stridency is to have pupils sing softly. That is an expediency which might, indeed temporarily, result in a tone that would fall pleasantly upon the ear of the listener; but to induce

a more pleasing quality of tone by repressing normal intensity will, with absolute certainty, impose upon the young singers tenacious habits of throat constriction which will inhibit them from free tone production. The objectionable stridency should be eliminated by inducing the singers to purify their vowel pronunciation, not by repressing tone intensity. A pure vowel sound, formed with a *completely* open throat, will never sound harsh, regardless of its intensity.

CHAPTER 8

Legato Singing

True legato singing is what we do not hear these days. Older singers had this technique to perfection. Voices were used like an instrument. One does not slur or slide on the piano, or on an oboe, a clarinet, a bassoon, a horn; but one can slide and slur, from note to note, on the string instruments—violin, viola, cello. The older singers gave each note its proper value, then moved into the next without intermediate noise or tone. This is what "legato singing" means, moving from one pitch or tone to another, without slides, slurs or intermediate noise.

Legato singing is important from the standpoint of production. When a pitch is attacked and sung in the middle of a note, all the vocal muscles involved have come into the requisite tension for that pitch.

If you sing middle C, for instance, and instead of attacking the middle of the pitch you slur into it, the vocal muscles will adjust to the pitch on which your slur begins, whether the slur be as short as a quarter or half tone, or as long as an octave. Then you are squeezing and forcing these muscles to readjust to the correct pitch (the end of the slur), and they will not be in complete coordination but will be out of balance and the tone will be forced. The resonating cavities also will be maladjusted, for they will be in tune with the beginning of the slur and will stay that way while the vocal cords are forced into the correct pitch.

The whole vocal mechanism begins to tighten, the voice

becomes throatier and thicker and tone production becomes difficult. If you are singing correctly, you may not be able to finish your song or aria.

Legato singing is but one phase of fine vocal production. There are other facets, of course; and legato singing *per se* is tremendously important for other reasons. Here is one.

Let us suppose that you are singing in a hall, and the acoustics are excellent. You begin on your first tone, which has four beats before you move to the next pitch. You slur into the first tone, depending upon the length or depth of the slur you have already lost—perhaps a quarter of the first beat, or perhaps a half beat. You hold the tone, then slur into the next one and that took maybe a quarter or a half beat. You have held the first note not four beats but only three or three and a half beats. Remember, the tone is acoustically reinforced by the hall; the backward and forward rebounding of the tone from the walls, ceiling, floor and the like has built up the volume of the tone. Before the tone has had a chance really to swell by reverberation, or the acoustics of the hall, you are singing the next tone. There has been no opportunity for the tone to bloom into full glory; hence, it sounds much weaker than the actual note. However, if you had held it for the four beats, then moved immediately into the next pitch also without slurring, the voice would have built up, by acoustics, into full volume, whether in piano or *forte* singing.

A big voice that slurs in and out of pitches will always sound much smaller than a voice of medium size that sings a perfect legato line.

Here are some examples of legato singing:

1. The song "I Love You Truly." The words are "I Love You Truly, Truly Dear." The legato way: the last syllable is thrown over to the beginning of the next tone, so: "I—Lo—vYou—Tru—ly, Tru—ly—Dear."

2. Or "Carry Me Back to Ole Virginny." This should be sung: "Ca—rry—me—ba—ckTo—O—lVir—gi—ny."
3. Or "Sweet and Low." Sing it: "Swee—tAn—Lo—ow . . ."
4. Or "Ole Man River." Sing it: "Ol—lMa—nRi—ver . . ."

There are three recorded instances of brilliant legato singing by great artists of the past. Listen, if you can, to Emmy Destinn singing the "Vissi d'arte" aria from Puccini's *La Tosca* or Nellie Melba in Tosti's "Goodbye" (*"Addio"*). And I suggest one of the greatest *belcanto* tenors of all time, Fernando di Lucia, in Ossian's aria from *Werther.*

These are primary examples of breath control, the unbroken phrase and the intuitive art of great singing—requisites in the proper expression of music itself.

CHAPTER 9

When the Voice Fails

Vocal indisposition, for the actor and the singer, is a bugbear of the trade. It is due to myriad causes, not all of them physical. Such indisposition can be allayed, even cured, if the actor or singer will take some sound advice. For maladies of the voice, real or psychological, have existed since the human voice first became a means of communication.

Often an actor or singer will call me, between performances, with hoarseness in the voice, hardly able to speak, let alone sing. Certain procedures can be used to relieve this condition. If the vocal condition is a result of a poor or inadequate vocal method, the method itself has to change. Meanwhile, here are a few tricks of the trade:

Tell the person to drop his jaw gently downward without forcing, and stick out the tip of his tongue. Take a clean handkerchief, grip the tip of the tongue and try to pull it out of the mouth while the so called patient tries to pull the tongue back.

A tug of war ensues: you are pulling forward, he is pulling back. Then have him wiggle the tongue back and forth, almost rocking. Keep on doing this, say, five to ten times; now tell him to relax for a minute or two.

Wrap a bit of cotton around a toothpick or probe, and dip it in grain alcohol—moist but not dripping. Tell the patient to open his mouth and lift the tip of his tongue to the roof of the mouth. Gently swab the bottom of the mouth and inside of the lower gums. This has a stimulating effect upon the tissues and nerve ends.

A small piece of ice, or a glass of ice water, now can be used. Place the ice in the bottom of the mouth, or sip a little ice water and hold it, also in the bottom of the mouth. *Do not swallow it.* Let either the ice or the cold water roll around the bottom of the mouth for a few seconds, then spit it out. Let the mouth warm of its own accord, and when it feels natural once more, begin the whole procedure over again.

Do this three or four times or more. This helps to start the circulation and relieves congestion. In extreme cases, follow this procedure for fifteen minutes.

Now grasp the larynx with your thumb and forefinger and move it back and forth, up and down, and sideways. Keep this up until his throat feels more relaxed. You may try, with a small spoon, putting downward pressure upon the back of the tongue, pushing down gently. Hold this for a few counts, then release the pressure. Repeat this a few times. These procedures will be of great help in cases of hoarseness, huskiness or loss of voice due to irritation or strain.

After these procedures, have the patient vocalize in the following manner:

The man *must* use falsetto, and it is important that the tone be very soft. He must *not* constrict the throat, but make the tone as breathy as possible. The woman must do the same in the upper register.

Have you ever seen a very sick person, so tired that when he speaks his voice is just a thread, with barely audible sound? I try to get, in the patient, the same feeling of this tired, breathy, exhausted way of speaking. Take a medium pitch, and in a light, breathy tone sing MOO-MOO-MOO three times. All the patient's breath should be exhausted in these three MOO-MOO-MOO's. Have the patient do it again at a higher pitch, keep changing the pitches in a

talking manner. The tone will be barely audible, thin and light and extremely breathy. Often no tone can be produced at all. In such a case, continue as before, and tell the patient to let all the air escape with the pitches, or tones. But be sure that the patient's throat feels easy and relaxed.

Now start the patient on the B natural above middle C and repeat MOO-MOO-MOO on that pitch. Again, make sure that the breath is exhausted with the last MOO. Then go up by half tones to E flat below high C, and move back again.

If the voice seems to respond, let the patient speak MAH-MAH-MAH in full lower-register tone. This applies to both male and female voices. Tell the patient to swallow a few times, and if the throat feels dry, gently bite the tip of the tongue with the mouth closed. Often, this starts the saliva flowing in the mouth.

I have had excellent success with a preparation called Larylgan, a fine spray for laryngitis or loss of voice due to strain.

CHAPTER 10

Voices of the Past

When you listen to recordings of great voices in the past, consider the limitations of the era in which they were made and do not expect the crystal clarity of high fidelity. We must listen with different ears and a different spirit, discarding automatically the surface grind and limited veracity of the voice itself.

First, let us realize that the frequency range of the old discs was from 2,000 cycles per second to 4,000 at the most. This would depend upon the room in which the recording was made, the space at hand and the response of the recording diaphragm. The artist stepped into a room of indeterminate size. Walls were heavily draped and padded, which absorbed most overtones of the voice and made any voice sound much smaller than its natural quality.

When we listen to an artist, now and in the past, the concert is in a hall, with acoustics from good to superb. As the artist sings or sang, the voice, rebounding from the walls, builds up in quality and volume. Acoustics help to build the voice, by reinforcing the voice and its tones. The artist can and could sing naturally, soft to *forte,* depending upon what is and was sung, interpreting it as the composer intended.

Conditions in the old recording studio were very different. The walls were padded, the floor covered by rugs or carpet, and the artist sang into a horn. The horn was of varied shapes and sizes—round, square, straight or curved. The large horn picked up the voice, which traveled along the interior, compressed as the opening became smaller, until it reached the recording box. This consisted either of

perfectly registered and developed, perfectly co-ordinated. She uses her voice like an instrument as she moves from pitch to pitch without slurs or noises. You hear a perfect legato, an even scale, an equal tone from top to bottom. Every tone is centered in the middle of the pitch. The tone is clear, with the pure, impersonal quality of a perfect voice perfectly used.

She was sixty-seven years old when she gave her farewell performance at Covent Garden, London, in 1926. True, she did not sing the extreme top, and she tired more easily; consequently she strayed occasionally from the true pitch; but the voice still was there—young in quality, still registered, still silvery and pure.

Listen to Tetrazzini. Again you will hear the two registers co-ordinated, not as perfectly as Melba, but co-ordinated. She also moves from pitch to pitch with an excellent vocal line, a brilliant top and, like Melba, a solid lower register.

Louise Kirkby-Lunn, the English contralto, had a perfect legato movement of the voice, with co-ordinated registers. The voice was mellow but not throaty, dark yet brilliant in the upper reaches. She was a great vocal example.

Was there ever a greater dramatic soprano than Emmy Destinn? Again, we hear a registered voice, perfectly co-ordinated. Her legato singing was faultless. She, of all the sopranos of the day, achieved the poorest results in recording. Even with this disadvantage, though, you will hear no swooping or sliding, only firm attacks right in the middle of the note. Her recording of the *Trovatore* aria "D'amor sull-ali rosee" will startle you, as will Melba's singing of Tosti's "Goodbye." But whatever these ladies sang, they sang with magnificent art.

CHAPTER 11

The Spoken Voice

There is another aspect of the human voice almost as important as song. Most of us have lapsed into slovenly and often inaudible speech. The number of persons one encounters in a lifetime who speak clearly and correctly is small indeed.

Clear and correct speech is vital to the successful actor, for instance. Many aspiring actors do not pay enough attention to the sound of their voices. Men speak in tones of mixed registration—too high, strident and thin. As their voices are not produced properly, they are apt to find interpretation of their roles correspondingly difficult. Whatever the degree of an actor's dramatic ability, his work will suffer if he cannot or does not speak with the full power and color of his voice. Many an actor of moderate talent has become a success by way of a fine, resonant voice, skillfully produced. And on the other hand, there are many fine actors hampered by mediocre vocal equipment.

The actress, too, can learn from the singer. Vocal limitations often tend to sequester an actress for the rest of her life in certain roles to which her prevalent voice is suited. Such a voice is light, thin and blighted by a "little girl" quality which she cannot change. But an actress of temperate gifts, given a resonant voice aware of its chest register, can "arrive" because her voice has authority and reaches the audience in clear, ringing tones.

We who use our voices from day to day—speaking, whispering, shouting perhaps—have become used to them, and few of us stop to think of the quality of the voice we utter, or whether this quality could or should be improved.

But the firm, resonant voice will gain attention; the quiet, "carrying" quality will gain us respect and immediate regard.

Some time ago, an actor came to me with a specific problem. Every time he became emotionally involved in a dramatic scene, his voice would choke off and, temporarily, he would become mute. He had tussled with this problem for six years, and had made the rounds of several vocal coaches. No one seemed to be able to help him.

He was cast in a secondary role in a drama scheduled to open on Broadway soon. It was an important role, from a dramatic standpoint. In rehearsals, his voice choked off in his one big scene. This did not always happen, but he never knew when it would happen. So he was in constant fear.

The result of this fear, of course, was uncertainty in all his other roles. Consequently, he could never really give his best to the part.

We worked every day for two hours, for three weeks. The vocal fault was simple, and I was amazed that it had not been found before. We both had "sweated blood," and frankly I would never go through such an ordeal again.

But he went on in his part and was a success, and the voice remained firm. Later he went to the West Coast and to other tasks, and he still writes once in a while, happy that his old vocal problem never came back.

A young actress whose mother was famous in the theaters of Europe, her father an equally celebrated motion-picture producer, also appeared at my door. She was a beautiful girl, with fine dramatic ability. But she had a light, ingénue voice in speech and no singing voice at all. She was just able to sing pitches, without quality or sustenance. But we developed her chest register, and now she does big dramatic roles; she can deepen and expand her voice without inept shadings or other uncertainties. And she

has acquired a fine singing voice. Since her voice became more versatile, she has had many more offers, and surely will reach the top. Most important of all, she has not become *typed* for ingénue roles, as before.

And there was the case of the young comedian with a high and girlish voice. He too was talented, but his tone quality kept him from expanding his talents into straight dramatic roles. Now his voice is normal, has dropped an octave, and he has begun to do dramatic work. It used to be "Yes, ma'am," now it is "Yes, sir," on the telephone, and he's very happy about it.

Another case comes to mind, a young dramatic actress. She was developing a fine mezzo voice, but not being interested in singing, she did not continue. She continued her acting instead. She had a resonant, luscious voice, and received excellent notices in a recent New York production of Euripides' *Electra.* During rehearsals she stood up noticeably under vocal pounding, and at dress rehearsal half the cast had laryngitis but she did not.

The man or woman with a full, rich voice that caresses the ear and inspires confidence—a voice beautifully modulated, rising and falling in its inflections without losing its timbre—will have an enormous asset in any and all occupations. Such a voice is a must in the theater, the cinema, television and the like. Such a voice is a necessity in public speaking, and business executives, scholars and others who may have occasion to speak in public should develop this voice to its fullest extent.

A voice of this kind can be acquired. At first the voice may sound thin, edgy, strident (how many women do you know who sound like that?), but once the voice is registered, it always will sound full and rich and resonant, and will carry to the furthest reaches of a hall of any size without extra effort or stress.

In the desert farmlands of Israel, Israeli women will call

and shout to each other across far stretches of land. These voices acquire a chest-register production. When they "open up," it is chest register; when they speak more softly, the voices will show more upper-register tension.

One may say of a Broadway performer that he or she "belts out" a song in chest, but the quality is poor. These performers *do not use* pure chest tones, but a mixed "white" quality. This can be strong, but is not pleasant. In the long run, these voices end up in limbo, with wobbles and tremors.

One thinks here of the singing Italian peasant, and of the Spanish *gitano,* or gypsy, manner of singing. It is natural, heavy chest-register singing, and does not often rise to the upper register. It is an axiom, in fact, that if you try to teach a *gitano* or any other peasant to sing, you would have to work on the upper register. Put this down to the fact that few peasants, of any breed, really have good upper singing voices, but all of them sing.

How do we acquire this heavy, low, full vocal quality? When I say heavy, I don't mean loggy but a full, rich tone. We need proper deep breathing to fill the lungs with as much air as possible, but without crowding, so that we do not feel stuffy.

The principles that apply to the singing voice also are mandatory in the speaking voice. As we do not sustain the speaking tone as in singing, the vibrato will and should be absent. Since we speak with a far lower intensity than when we sing, the speaking voice should be a good deal lower in pitch.

A good quality of voice depends upon the development of both registers. These registers must be co-ordinated, too. One also must consider a proper adjustment in resonance. Clear enunciation rests upon the flexibility of the tongue.

It is easier to train the speaking than the singing voice, as requirements in singing are much more severe. The would-be singer must have an accurate ear, an unnecessary

tribute of speaking, yet anyone accounted "tone deaf" ll have great difficulty in developing his voice at all.

As I said before, as the speaking voice is pitched lower an in singing, it is important that the lower register be lly developed and used. This applies to both men and omen. The registers also should be co-ordinated, for the wer register alone will make the female speaking voice und "coarse, rough and tough." If the woman is an actress, ch a voice would limit her to certain roles. Males also ould purify the registers of their voices, for often the wer male register is mixed, and the man may speak as gh as an octave above his real and natural tones.

It is not a high voice alone that gives an impression of uth, but clarity and freshness above all else.

Frequently the actor will speak in a thick and throaty ice, which gives the impression of too low a tone. By e same token, a voice that is thin, edgy and shrill sounds if the pitch of the voice is too high.

In a man, we try at first to develop the upper register alsetto) when his speaking voice is too high, thin or roaty. As soon as the upper register has developed, the eaking voice usually will drop low, sometimes very low, its own accord. Then he is to use these few lower regis- tones as often as possible in speaking.

In time, of course, this range will stretch upward, and as does he must use more and higher inflections in speaking, en though this may sound peculiar to him. Soon the lower ice becomes firm and the solid and firm tones will be ry gratifying.

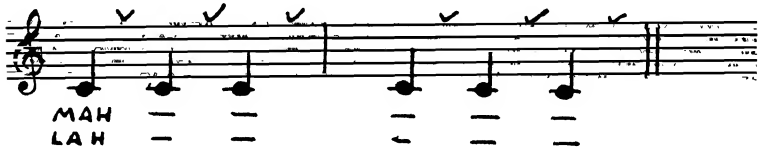
In a woman, work on the lower register comes first, establish firmness. She must also work with the upper gister, to keep it in balance. But as she speaks, she must ncentrate on keeping the lower register tones firm and ll. The speaker should not try to "project the voice" to e end of the hall; this is involuntary and happens of itself the voice is developed. Work on the singing exercises

as if you were becoming a singer, then on these exercises that help develop the speaking voice.

EXERCISES FOR THE SPEAKING VOICE

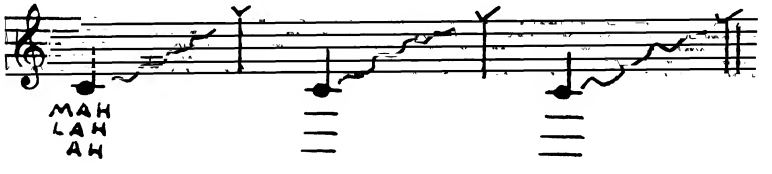
(Both Male and Female)

1. Get into the proper physical position; inhale a very deep breath without lifting upper torso; let the deep breath expand your lower torso. Then suddenly speak out very loudly as big, firm and as deep (without pushing your larynx downward) as you can: MAH-MAH-MAH—middle C



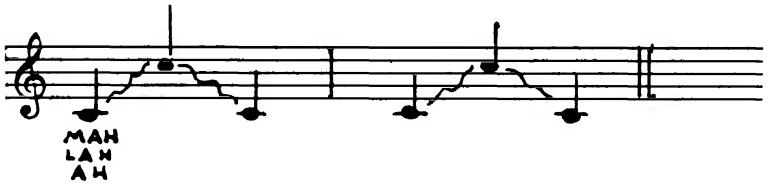
for females, the C one octave below for the males. Be sure to take a deep breath after each MAH. Then repeat on higher pitches. Let the voice increase in size and fullness as you ascend to the higher pitches. Never let it become smaller and/or softer.

2. Start again on the same pitches, same procedure, as above, except this time you raise the pitch, chanting up-



ward, or using an upward inflection. Sing as high as the voice will increase in size, fullness and heaviness.

3. Same procedure in stance, breathing and vowel sound. This time start on the same pitch, chant upward or



inflect upward, then back again. Remember you are *not* singing but more or less chanting, in a monotone, so to speak.

After this has been fairly well established, do the same exercise on all the vowels. Then add different consonants to the vowels, and finally take words, break them up into syllables, as if you were emotionally involved in a speech, and your voice rises higher and higher, then sinks down again. Always in the chest register, this applies to both sexes.

Keep up the singing exercises, whether you have a singing voice or not. The principles are identical.

CHAPTER 12

The Better Voice

Although we can standardize the method of voice production, for we know from physical experiment how the voice works, we must not overlook the fact that each student is an entity unto himself. We know the principles involved in the act of singing from a mechanical standpoint; yet because each student has his own identity, we must reach the brain as well as the vocal cords.

We must explain technique to the student in individual terms that he (or she) will understand according to his temperament. The fundamental of voice production does not vary, but application of these truths must be understood by each student in his own way; hence, this application must have infinite variety.

Purely voluntary control of the voice is not particularly advantageous; this control must rest upon a neurological muscular response dictated by the mind. Many times the teacher uses certain physical manipulations, then asks the student to sing. The student actually is not doing anything physically himself, just singing a tone under another physical adjustment. Hearing this new and different tone, of better quality, he must learn to adjust his mind to the new quality, learn to like the quality and sound and want to incorporate it into his singing function. There is no physical manipulation on his part—simply a vocal response to a *new* mental concept of the tone.

Eventually a correct control of all the muscles is achieved by the corrected mental picture of a new and better voice.

Singers often misunderstand the meaning of the word

relax. I consider relaxation to be an intermediate state between an inert muscle and one that is tense and rigid. Only in death do we find complete relaxation. Vocal relaxation means a condition of muscle balance, in which there is a degree of contraction. Some relaxation also occurs in the release of a conflicting pull of one set of muscles against another. In the vocal tract, relaxation comes when there is no conflicting pull between antagonistic muscles. Let us consider:

1. Complete relaxation means "dead."
2. Muscle tonus must exist in the vocal appartus and body.
3. Relaxation does *not* mean letting go, slumping, etc.
4. In complete co-ordination, proper relaxation and muscle tonus exists.
5. The student *must* learn to keep the musculature of the whole body in proper tone (muscle tone).
6. It is important to remove all improper tensions.
7. The teacher must create proper tensile strength in the correct muscles.
8. Tension in any part of the body will reflect in the voice, i.e.:

a) A "give" of the breathing muscles
b) Jerking the head in any direction
c) Moving the limbs
d) Twitching the eyelids, lips, jaw, etc.
e) Losing the body balance
f) Reflex twists and moveemnts, the result of wrong tension

Here is a pattern of therapy for general relaxation:

1. Quiet and peaceful thoughts
2. Manipulating of the tense muscles
3. Tensing and relaxing the muscles
4. Stretching and yawning

5. Concentrating on particular muscles, then relaxing them
6. Mental effort in good singing
7. Too much rigidity and wrong tensions spoil tone
8. Correct vocal action induced by correct vocal efforts

Fear is one of the most acute obstacles for the student.

1. He fears that he cannot sing.
2. He fears to try.
3. He fears that the voice does not sound right.
4. Fear holds back his voice.
5. Fear inhibits the voice.
6. Fear constricts his tone.
7. Fear destroys the balance of the body.
8. Fear causes his muscles to contract.
9. He fears to sing tones beyond his ability.
10. He fears that he does not please the teacher, his parents, friends and others.
11. He fears that he cannot change his vocal method.
12. He fears that he is too old, or too young, to sing.

These are but a few types of fear, among many others, that must be eradicated if the student is to learn the art of singing naturally. The teacher must impose upon the pupil procedures that will overcome his fears. The teacher must induce the pupil—

1. To pay strict attention
2. To listen to what the teacher may say
3. To listen to a preconceived cue
4. To forget himself
5. To disregard the sound of his first tones and the initial quality of his voice
6. To learn—
   a) The sound of a tone properly produced
   b) How such a tone feels to him
   c) To pay attention only to the teacher, his words and thoughts

d) To follow the teacher's instructions to the best of his ability

The teacher must also develop the pupil's attention by ıint of personal participation as the lesson progresses. ls gives the pupil a sense of responsibility, for he and teacher are working together in a common cause, to rect and develop the pupil's voice.

CHAPTER 13

Basic Developing Exercises for the Female Voice

The exercises in Chapters 13 and 14 are, I consider, the important basic exercises for starting the voice on the correct vocal production. Once the basic instructions for register development and co-ordination have been observed and practiced, it will be possible to make up your own exercises as they become applicable to your voice.

There are many good books on vocal exercises and trills; these can be practiced with the thought foremost in mind that the registers must be developed and co-ordinated. Put in your own ideas as to where and how the chest register and/or the upper register should be used.

It is most important that there be a clear concept of what the tone should sound like. There are many good books on voice, with fine exercises, but they do not, nor can they, tell you how the correct lower and upper register should sound. That is why it is so very important that you should listen, and listen, and listen again, to the recordings of the great singers mentioned earlier. They are, for the most part, poor recordings, but they will convey to you these points:

1. Correct attack of tones
2. Correct lower-register sound
3. Correct upper-register sound
4. Correct co-ordinated sound
5. Correct vibrato
6. Correct legato singing

Listen to all the males; then form a mental concept of a correct sound through a composite aural picture. The

male singers will tell you everything about the male voice, except the pure falsetto tones.

Listen to all the females; then again form a mental picture or concept of the correct aural sound. In some of these recordings you will be able to discern the different qualities of the chest and upper registers and the correct sound when the two registers are co-ordinated.

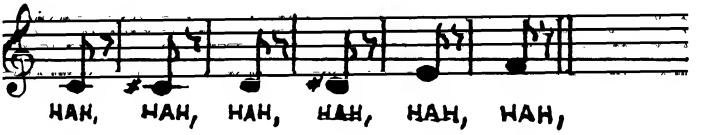
When the chest register of a female student is being extended into higher pitches, there will be greater muscular tension in the laryngeal muscles. You may feel roughness and a scratchy sensation in the cords. Do not be too much concerned about this. It is part of the game. As soon as the laryngeal muscles have become strengthened through vigorous use, this feeling leaves, but may return each time the lower-register range is extended upward. Once these tones are established in the voice there will be no sensation of any kind. In the upper register there should *never* be any feeling of discomfort—provided, of course, that you do not try to take it higher than the vocal muscles can manage. Continually keep the inhalation tension going. Think of "inhaling" the tones while you are singing, and be sure that the higher you sing, you maintain the "outward" tension of your lower torso. The tone will break only if it is sung with a constricted throat.

Do not, under any circumstances, thrust your lower jaw forward: let it drop back and downward toward the chest. Start every tone on the inhalation gesture, and be sure to keep this inhalation tension going at all times.

Listen to Celestina Boninsegna, and notice how the un-co-ordinated lower and upper registers sound. Listen to Nellie Melba and Emmy Destinn; here are the perfectly co-ordinated voices, perfect vocal attacks and great legato singing.

EXERCISES

1. The female should start out with a "chest-register tone." Try the middle C first. Take an enormous breath and on the tail end of your inhalation firmly sing HAH on the C. The tone must be at a *mezzo forte* intensity, firm and very cleanly attacked. Be sure that you do not slide or slur in any way or form into the pitch. The attack must be fast



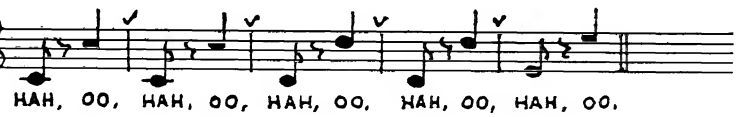
and firm. Always inhale between attacks. Do not let shoulders or chest rise while inhaling, or drop when singing. Only the abdomen should move inward at the moment of attack.

2. Sing the C as above, sustain for a beat or two, then without changing the vowel move into E and back again in C. Connect the tones, do *not* slur, and make sure that the upper tone, in this case the E, is the stronger. If the throat feels open, the tone full and even, and you can

move precisely through these pitches, try a half tone above, and a bit higher, as long as the upper pitches increase in volume, become brighter in sound and still feel comfortable.

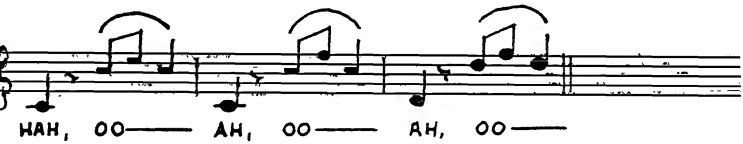
3. Again sing the C in chest register on AH; release and jump up one octave. Sing this C in the upper register on a

ry dark oo. Be sure to increase speed between the two ches. The "jump" from the low C to the octave above ould be as rapid as possible. Do not breath between ese pitches. The whole exercise has to be done on one eath. Make sure that you release the lower tone before



nging the top one. The idea is to bring the open throat tting that you have achieved on the lower pitch into e octave reflection.

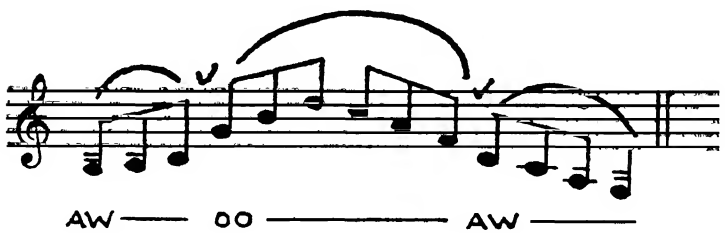
4. Sing the low C as above; release; jump to the C ove in the upper register, then move to E and back to again. Low C in chest register on AH; release; jump to e C above, move to E and back again to C. All in one eath, but be sure that you break off the lower tone before



nging the one above. Then try the next half tone, C sharp octave above to C sharp, F and back to C sharp. Try to as high as you can go easily, and keep the open throat osition.

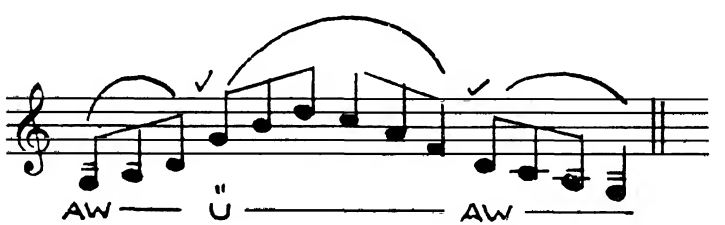
5. When you feel that both registers have been devel-oed to a degree, become purer in sound and feel free with roat release, try this exercise and see how well you can ove or switch back and forth. Take low G or any low, asy pitch. Take the first three tones in the chest, very firm nd solid; snatch a deep breath and sing all the upper-

register tones; six in number; take a deep breath and sing the last four tones in the chest register. The chest tones are sung on AH; the upper on OO. After you have established this switching back and forth, try to sing the whole exercise with one breath. Always let the highest chest and upper-register tones be strongest. Be sure that you move



with great precision from pitch to pitch. Take it from as low as you can to the highest tones, as long as they are free; but be sure that the highest upper-register tone is always exactly one octave above the highest chest-register tone.

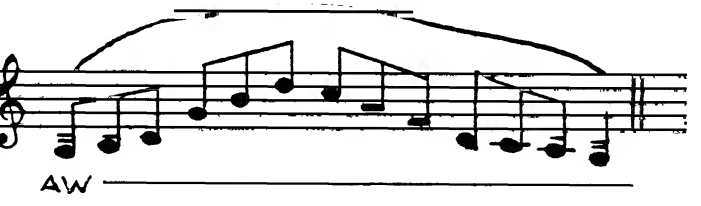
6. Same as 5, but instead of OO in the upper register



change it to a very dark ü.

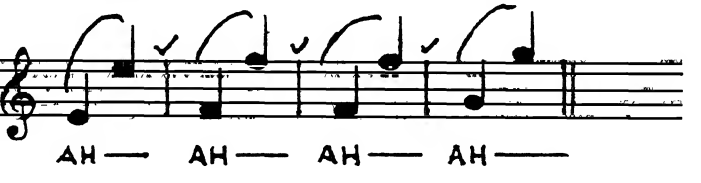
7. When these pitches feel secure and solid and are in the voice, do the same exercise, but this time use only one vowel sound for the lower and upper registers. Try not to worry about the discrepancy in volume between the

ters. The registers must match each other in quality, necessarily in quantity. To match them we must use



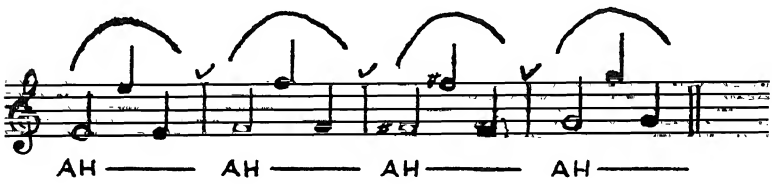
same vowel sound for both. This exercise is done with breath.

. Sing E with a bright chest-register tone; then with- breaking off and with a slight outward tension of the omen, sing the E one octave above in the upper register. exercise, if properly done, will bring in a lot of chest ion (in the upper register). The upper tone will sound as bright and firm as the lower one. It is of *utmost* ortance that you do *not* slur or slide between these nes. Both pitches, if done properly, will feel on one



l. You will not be conscious of reaching for a whole ve jump above. You will have to use much more gy for the high tone. Try to keep your mouth opening tical for the two pitches. Sing all tones on the inhala- feeling or gesture; try to keep the expansion in your er abdomen or torso at the moment of going into the tone, and try to keep this expansion while sustaining pitch.

9. Same as above, but this time move back into the chest register. Attack the low tone firmly; move into the top tone at the moment that you are expanding your lower torso; then move back into the low pitch. Be sure to end up with a very firm tone. Any sliding or slurring will negate this exercise. Never, *never* slide into the pitch from below. You may glissando down; if you do, be sure that you



do not slide below the E but end up with the pitch firmly centered. It is of course best if it can be done without sliding. Play the three pitches on a piano, and listen; that is what it should be like—a perfect legato movement of the voice. Keep in mind that these are co-ordinating exercises for the two registers.

CHAPTER 14

c Developing Exercises for the Male Voice

'he introductory paragraphs to the preceding chapter, istening to the recordings discussed earlier, apply here nale singers too.

'he male singer always sings in the chest register. When ings a very soft pianissimo, it is of course falsetto; the ıte he starts to swell on the tone, the chest register s control.

Remember that the falsetto must be sung with extreme ness, while the chest register must be sung with a er bright tone. The higher pitches in both registers, of se, are very bright, while the very low pitches in the t register become rather dark. As the chest register is higher and higher, it becomes larger and brighter. The and medium-high falsetto tones are also dark, although darkness should at first be sung as high as possible, out closure. The very high falsetto tones, of course, me rather bright.

'here should be no vibrato in the low and medium tto tones; it is only when the pitches around high B ral and above are sung that the vibrato movement ident.

suggest that the male singers should listen to such ts as Sammarco, Caruso, John Charles Thomas, Orville old and L. Melchior, among others. In most of these ts you will hear the perfectly co-ordinated voice: with others, a pure chest register only, which gives the ession of whiteness to the upper tones.

'lease, never thrust your jaw forward, but let it fall nward and back.

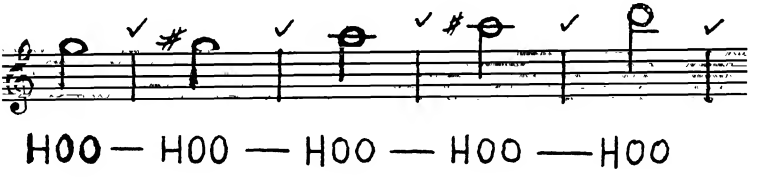
Be sure to take very deep breaths with a relaxed lower torso, and sing each pitch on the inhalation gesture or feeling.

When the male goes through the falsetto, there must be a great increase of the "outward" lower-torso tension. Each pitch must be sung as loud as possible on that particular pitch, without screaming or shouting.

These are the basic exercises for vocal development. You may make up your own or use others that are in exercise books, but always try to remember that whatever exercises you may do, they must be sung with the registers and registration in mind.

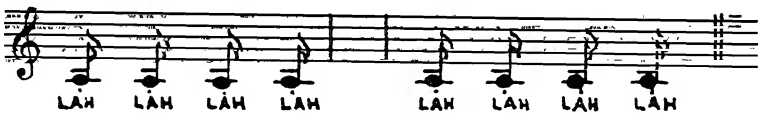
EXERCISES

1. Stand erect, shoulders and arms relaxed, chest in a normal position, neither high nor held nor forced down low. Relax your abdominal muscles; drop your jaw and take an enormous breath; while still in the process of "inhaling" sing the high G on HOO. Do not slur or slide into the tone, let the abdomen move inward as your air becomes exhausted. Hold this pitch for a short period and



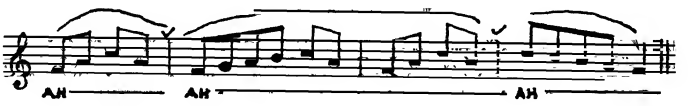
make sure that all the air goes out with the tone. Keep pitch steady and do *not* end up with a downward slur. The tone must be as dark as possible. Repeat a few times; then try a half tone above. If the tone keeps steady and has no vibrato, take it higher—to high B, then back again by half steps to G. Make sure that you inhale very deeply before each tone. All of these pitches are sung in falsetto.

2. Sing low A (for low voices) or the low C (for higher voices). These tones are sung in the chest register. Take the proper inhalation; with a relaxed abdomen, just as you are inhaling the tail end of the breath, suddenly sing the LAH-LAH-LAH-LAH in a full, firm and bright chest register tone. Make sure that the tip of the tongue moves very rapidly from the L into the AH. The L is very short and the AH is sustained. Take it up by half steps until the tone begins to thin out; then start again at the beginning. The idea is to accustom you to carry the full and pure lower register into the higher pitches, without breaking or losing the



full weight of this sound. Using the L rapidly also helps to release any tongue tension that may exist. Do *not* let the jaw move with this exercise. Do *not* hold the jaw in this position but simply let it hang, as it were. If the tone cracks or breaks, your throat has not opened and is constricted. Be sure that both jaw and throat are completely relaxed and open when you inhale.

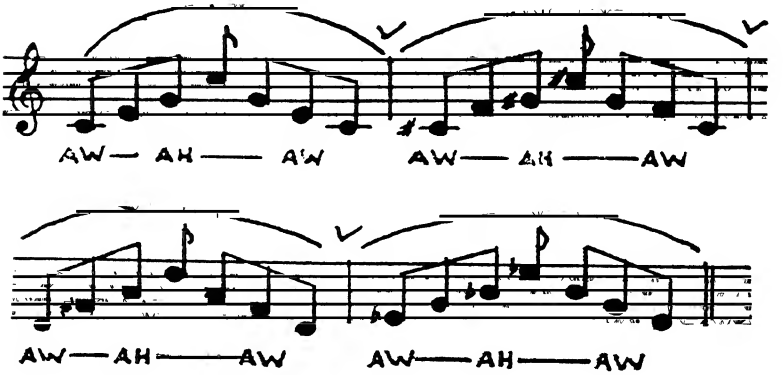
3. Follow the inhalation procedure and sing this exercise very firm and straight on a solid and bright AH. Be sure that you move precisely from pitch to pitch. Sing it in the manner of an instrument, like the piano, oboe, clarinet, etc.



Every pitch *must* be firmly centered, and *no* slurring. Give each note its proper value in time. Slowly at first, then

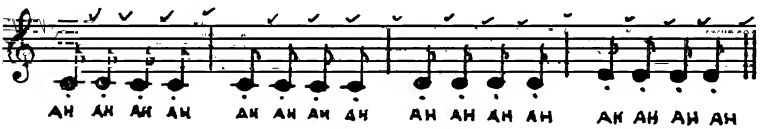
speed it up as fast as possible, provided that each tone is firmly centered in the pitch and solid.

4. Start this arpeggio with the same vowel; let the voice expand, become stronger and brighter as you ascend. Do



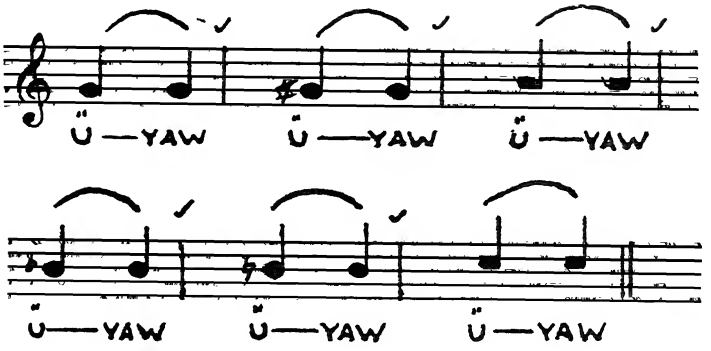
not make any conscious vowel adjustment. Concentrate on the vowel sound and pitch.

5. Take a deep breath and attack the tone very firmly; inhale and attack again. Be sure to take a breath before each attack; do not let the breath accumulate. If it does,



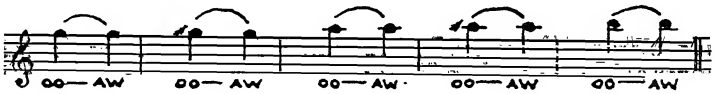
stop and push out all the unused air and start anew. Keep going up by half steps, and stop when the tones thin out and lose their firmness. Try to take it as high as possible.

6. It is very important that the jaw and tongue tensions should be abated. Let the jaw drop down *and* backward. Under no circumstances should the jaw be pushed forward. Let it hang as loosely and relaxed as possible. Take



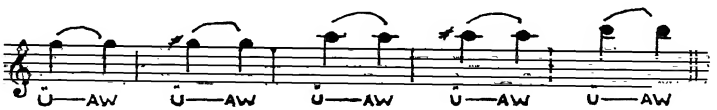
a deep breath and on G or any other easy pitch sing ü—YAW. Almost close your mouth on the ü sound and let it drop open on the YAW. Repeat ü—YAW, ü—YAW until the jaw seems to fall of its own accord.

7. Sing the high G in the falsetto on the OO vowel. *Do not shape* the lips for this vowel. Without pitch deviation modulate the OO into the dark AW. There should not be very



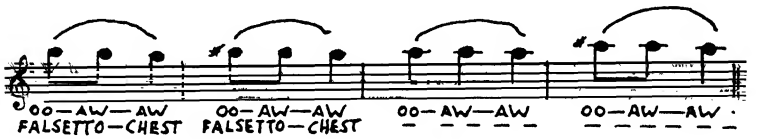
much difference in the sound. In this exercise we do not use the Y in front of the AW. It is OO—AW, *not* OO—YAW.

8. Sing the G on the dark ü sound. It will sound like the OO with the EE added to it. Sing ü—AW. Be sure that



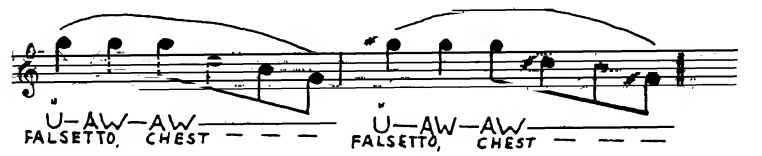
the AW sounds just as dark as the ü. Do not add the Y before the AW. It is ü—AW.

9. After the chest tone has been carried up as high as possible without mixture, and the falsetto has increased in strength, try to add the falsetto to the chest on the same pitch. Sing the falsetto as loud (without mixture) on the G as you can on OO—AW, or Ü—AW; then, without deviating from this pitch or slurring, and without breaking off the falsetto, move swiftly into the chest register as loud and firmly as you can. At the moment of transition from the falsetto into the chest, think of inhaling the breath and try to expand your lower torso outward. Thinking of inhaling the breath or tone will help you get that extra outward ten-



sion which is so important for singing—most important for "going through the falsetto," as you are doing now. It is this "out" tension around your lower torso and waistline that is so very important to achieve the higher vocal pitches. First the OO—AW in falsetto; then without breaking off, sing the last AW in the chest. Use all the voice you can muster, but do not yell, shout or scream.

10. After the above exercise has been mastered, try this one. Take the G in the falsetto on Ü; modulate into AW still in the falsetto register; then without any shoulder or chest movement go into the chest register on the AW; sustain a beat or two and without changing vowels move



smoothly into the D, B, G, all downward, of course. Try the whole exercise half a tone higher, and another half a tone higher. Remember that as you ascend the falsetto- and chest-register tensions increase, so that the tone will be larger and fuller in proportion. The first falsetto pitch is started on the extremely dark ü sound.

Coda

The critic-composer Deems Taylor once remarked upon the "artless beauty of nature; the deliberate beauty of art." Singing is at once a natural process and an art. Each is dependent upon the other, for art so often supplements a natural process.

The reader, prospective student or teacher, will have gathered from the foregoing precepts that is it easy to abuse the voice, or any other set of muscles in the human body, and not as easy to correct this abuse and return to the procedures that nature dictates.

The reader also will have gathered that the mind of the student is an important adjunct to the art of singing. A negative, uncertain or hostile mind can ruin and frustrate the efforts of any teacher, or the inclinations and desires of the pupil himself.

These precepts, while physically and mentally sound, must not be construed as conclusive in every case. The pupil himself is an individual entity, with a nervous system and temperament of his own. The careful and intelligent teacher must therefore apply these precepts to each individual case, gently, and with sensitivity and restraint.

For the teacher cannot progress without the complete and implicit co-operation of the pupil. This must be a joint effort, and the net result should be a satisfaction to both.

EXERCISES TO RELEASE THE INSIDE OF THE MOUTH

1. Let jaw drop down and back; inhale and exhale slowly till your tongue is lying absolutely flat and relaxed in the bottom of your mouth. No groove, no hump, in the tongue. Continue to inhale and exhale in an easy manner till the tongue is relaxed completely. Make sure that your lips and jaw are loose and relaxed.

2. After the above exercise has been mastered, gently raise the tip of your tongue and touch the front of the roof of your mouth; then slowly push the tip backward, as if you were trying to tickle the back of the roof of your mouth. Then gently let it return to its original relaxed position in the bottom of your mouth.

3. Drop your jaw deep enough so that you can see the soft palate. Inhale deeply through your mouth; the palate will rise, more or less.

4. Open your mouth again and inhale through your nose. The soft palate will drop and your tongue will rise so that the back of your mouth will be shut off. Exhale the same way.

5. Open your mouth wide and inhale a very deep breath through your nose; at the same time make sure that your tongue is so relaxed that it will not rise up. The palate will drop down on the nose inhalation. Then exhale the breath very vigorously through the mouth. The soft palate will rise and shut off the passage through the nose.

6. By your inhaling through the nose and exhaling through the mouth (mouth open at all times), the soft

palate will be exercised without any conscious effort. This will strengthen the palate muscles, giving the palate and upper throat a firmness and elasticity which is very important for proper resonance and reinforcement of the upper partials, or overtones, which give individuality and quality to the voice.

THE VOCAL ATTACK

For a firm and solid vocal attack, the opening and closing muscles of the larynx must be brought into action.

It is necessary to sing very short-held tones, with a breath taken after each one (short inhalation). Every time a short tone is sung, the vocal cords approximate—the closing muscles are exercised. Every time the inhalation occurs, the opening muscles are exercised.

The tones must be attacked on the inhalation feeling or gesture, firmly and clearly. Any slurring or feeling into the pitch will nullify the benefits of vocal development.

VOWELS

U as in *pool* changes to U as in *pull* as you ascend. For the higher pitches let the vowel become brighter.
O as in *those,* but for a better tone it is best as in *door.*
AH as in *law* as the pitches ascend change to AH as in *father.*
E as in *pen.*
I as in *peep,* or darker as in *weep.*

Practice on the vowels by sustaining AW and without lip movement modify to O, then to U, back to O, to AW, to E and to I (the German ü is better and darker).

Be sure that there is none or *very little* jaw movement and *no* lip movement for any of the vowel sounds.

THE NATS BULLETIN

The Official Magazine of the National Association of Teachers of Singing, Inc.

one does not penetrate very far into the text itself without being forcibly reminded that its writer has, for many years past, been an earnest researcher for true understanding in the polemical field of vocal pedagogy, together with its closely related activities, mental, aural, physical and musical!

All things considered, we find this publication to be one of considerable merit, in fact one that will well repay addition to libraries concerned with the art of song and its teaching.

Opera News

Mr Winsel is at his best on the isolation, followed later by the co-ordination, of the two voices or registers existing in every human voice and he gives some good vocal exercises to achieve the correct isolation and afterwards the co-ordination.

I would put this *Anatomy of Voice* among the better books on this subject. It has the virtue of being not too involved. RUPERT BRUCE LOCKHART

THE AMERICAN REVIEW, NEW YORK

Regnier Winsel's method of voice control is truly scientific and yet is explained in such a simple and elementary language that it is easy to understand, Regnier Winsel's book should become a best seller in the theatrical world and among public speakers. It is our opinion that this book should also be very valuable to business executives who want to learn how to train and control their voice in order to gain more influential power in conference for their business.

results which were so impressive that indeed at times it was difficult to realize that voices could change so dramatically for the better.

MUSIC EDUCATORS JOURNAL

Simple, concise descriptions of the vocal mechanism and the anatomy of the body as it relates to breathing and phonation are provided.

There are also numerous examples of vocalises with specific recommendations for their use in developing the voice.

teachers will find this brief work useful and informative.

—*The Phoenix Gazette*—

A profound publication for singers, students, and teachers, an illuminating approach to the art of voice culture, the secrets of singing in brief.

BACK STAGE

uses special exercises to balance and strengthen the vocal mechanism and then co-ordinates the action with proper mental impulses.

The book is very readable and is highly recommended."

The anatomy of voice. Manual of vocal training based on physical, psychological and acoustical laws, special exercises to balance and strengthen the vocal mechanism and co-ordinate action with mental impulses. "A volume long needed by the vocal profession . . ."—*Variety.*